



DEFENDER SERIES

Online Double Conversion Technology 10kVA to 20kVA

- High Frequency and True Double-Conversion
- DSP Digital Control Technology
- Wide Input Voltage Range (110V-300V)
- Output Power Factor 0.9
- Optimized Battery Configuration: 192V/240V
- Cold Start
- 50/60 Hz Frequency Adaptive
- ECO Mode Operation For Energy Saving
- 50/60 Hz Frequency Converter Mode
- Selectable Output Voltage via LCD
- Selectable Battery Shutdown Voltage(EOD) via LCD
- Selectable Input Mode via LCD: 3/1 or 1/1
- Advanced Battery Management (ABM)
- Short Circuit and Overload Protection
- Automatically Charging Battery at UPS Off Mode
- Auto Control Fan Speed
- Standard RS232 Communication Port
- Optional Emergency Power Off (EPO)
- Optional RS485/SNMP/AS400/USB Communication Port
- Optional External Battery Bank
- Optional Manual Bypass
- Optional N+1 Redundancy Parallel





Defender Series 10-20 kVA Technical Specifications

MODEL	Defender 3110	Defender 3110L	Defender 3115L	Defender 3120L
CAPACITY	10KVA/9KW	10KVA/9KW	15KVA/13.5KW	20KVA/18KW
INPUT				
Rated Voltage	3/1: 360V/380V/400V/415VAC; 1/1: 208V/220V/230V/240VAC Setting available via LCD			
Voltage Range	3/1: Half load (190-520)±5VAC, Full load (277-520)±5VAC; 1/1: Half load (110-300)±5VAC, Full load (160-300)±5VAC.			
Frequency	40-70Hz±0.5% (Auto sensing)			
Power Factor	3/1:≥0.95; 1/1:≥0.99			
BYPASS				
Voltage Range	160V-Rated output voltage+32V			
Frequency	50/60Hz±5Hz			
OUTPUT				
Voltage	208V/220V/230V/240VAC Setting available via LCD			
Voltage Regulation	±1%			
Frequency	Synchronized with utility on AC mode;50/60±0.1Hz on battery mode			
Waveform	Pure sinewave			
Crest Factor	3:1			
Harmonic Distortion	≤2%(Linear load);≤5%(Non-linear load)			
Transfer Time	AC mode to battery mode :0ms Inverter mode to bypass mode:0ms			
Overload Capability	105%-125%:Transfer to bypass after 3mins; 125%-150%: Transfer to bypass after 30s; >150%: Transfer to bypass after 100ms			
EFFICIENCY				
AC Mode	≥93%			
Battery Mode	≥92%			
ECO Mode	≥98%			
BATTERY				
DC Voltage	192V/240VDC(Set up by jumper)			
Inbuilt Battery of Std Model	16*9Ah	Without Batteries		
Charge Current Standard Model	1Amp	Without Batteries		
Charge Current Long Model	No	7 Amp		
Typical Recharge Time	8 hours recover to 90% capacity			
ALARM				
Utility Failure	Beep/4s			
Battery Low	Beep/1s			
Overload	Beep Twice/1s			
UPS Fault	Long Beep			
ENVIRONMENT				
Humidity	20-90% RH @ 0-40 (non-condensing)			
Noise Level	≤58dB (1m)			≤60dB (1m)
MANAGEMENT				
Standard RS-232 ,Optional USB	Supports Windows 98/2000/2003/XP/Vista/2008/7/8			
Optional SNMP	Power management from SNMP manager and web browser			
PHYSICAL				
Dimension(mm) W*D*H	262×580×732		262×580×628	
Packing Dimension(mm) W*D*H	359×687×822		359×687×717	
Net Weight(kg)	74	30	39	40
Gross Weight(kg)	84	36	47	48