

## DEFENDER DSP SERIES

**Online "Double Conversion" Technology, DSP Controlled IGBT Rectifier UPS  
3 Phase Input & 3 Phase Output 10kVA to 250kVA**

- IGBT Rectifier
- Real Digital Signal Processor (DSP) controlled transformerless design
- Input Power Factor Correction PFC( >0,99 )
- Low Total Harmonic Distortion Level
- High Efficiency ( up to 95% )
- Wide Input Voltage Range
- Generator Compatible Operation
- ECO Mode Feature
- Intelligent battery management system extends the lifetime of batteries
- Static and Manual Bypass
- Communication with computers and network systems with SNMP availability
- Expandable battery blocks
- Low installation and operating costs
- Special voltage applications other than stated values



### Defender DSP Series Technical Specifications

MODEL	Defender DSP 3310	Defender DSP 3315	Defender DSP 3320	Defender DSP 3330	Defender DSP 3340	Defender DSP 3345	Defender DSP 3360	Defender DSP 3380	Defender DSP 33100	Defender DSP 33120	Defender DSP 33160	Defender DSP 33200	Defender DSP 33250
Output Power (kVA)	10	15	20	30	40	45	60	80	100	120	160	200	250
Nominal Active Power (kW)	8	12	16	24	32	36	48	64	80	96	128	160	200
INPUT													
Number Of Phases	3Phase+N-E												
Nominal Voltage (Ph-Ph)	380/400/415VAC												
Voltage Range (100% Load)	176-280 VAC												
Nominal Frequency (Hz)	50/60 Hz												
Frequency Range	44-66 HZ												
Input Current THD	<4%						<5%						
Input Power Factor	0.99												
OUTPUT													
Power Factor	0.8												
Number Of Phases	3												
Voltage	380/400/415												
Static Voltage Regulation	1%												
THD-V	<3%												
Crest Factor	3:1												
Frequency (Hz)	50 / 60 Hz												
Free Running Frequency (Hz)	0.01 Hz												
Overload	125% for 10 minutes, 150% for 30 secs												
Efficiency	>94%												
BATTERY													
Type	Maintenance Free Dry Type												
Quantity	2x31								2x30				
Battery Protection	Deep Discharge Protection with Auto Cut Off												
Battery Test	Standard ( Auto&Manual)												
DISPLAY													
LED Display	Line, Bypass, Battery, Inverter, Load, Fault Indications												
LCD Display	Load%, Input&Output Frequency, Voltage & Current, Bypass Voltage, Battery Voltage & Current, Temperature, Alarms, History												
STATIC BYPASS													
Number Of Phases	3Phase+N-E												
Voltage Range For Bypass	175-253 VAC												
Frequency Range For Bypass	47-53 Hz or 57-63 Hz												
COMMUNICATION													
Interface (Communication Ports)	RS 232												
Dry Contact Signals	Optional												
Others	SNMP Optional												
ENVIRONMENT													
Storage Temperature Range (°C)	Without Batteries -25 +55 C (15 to 40 recommended for longer battery life time)												
Operating Temperature Range (°C)	0-40 C (20 to 25 recommended for longer battery life time)												
Relative Humidity	0-95 % (non-condensing)												
Max. Altitude	1000 m												
Protection Level	IP 20												
PHYSICAL SPECIFICATIONS													
Dimensions W*D*H (cm)	56x82x128	56x82x128	56x82x128	56x82x128	56x82x128	56x82x128	56x96x110	56x96x110	56x102x130	56x102x130	110x82x160	110x82x160	110x82x160
Weight (kg)	115	120	120	138	140	140	165	170	220	235	340	380	420
STANDARDS													
Standards	CE												



ISO 9001:2008