

DEFENDER PRO SERIES

Online "Double Conversion" Technology 3 Phase Input & 3 Phase Output
10kVA to 600kVA

- Online Double Conversion Technology
- Eco Mode Feature
- Microprocessor Control
- Automatic Battery Test
- IGBT & PWM Technology
- Built-in Static & Manual Bypass
- Isolated Output Transformer
- Modification For Special Voltage
- Parallel System Option
- Internal Port for SNMP Option
- Expandable and Variable Battery Blocks
- 12 Pulse Rectifier Option



Defender Pro Series (10-150 kVA) Technical Specifications

POWER (KVA)	10	15	20	30	45	60	80	100	120	150	
INPUT											
Voltage	220 / 380, 230 / 400, 240 / 415 VAC ± %15 (Adjustable) 3 Phase + Neutral										
Frequency	50 or 60 Hz ± %5										
Protection	Current restriction for each phase on rectifier input (In x 1.5) + Fuse										
Input Power Factor	> 0,8 (6 Pulse/standart), > 0,85 (12 Pulse), > 0,99 (PFC Technology)										
Total Harmonic Distortion (THD-I)	< %25 (6 pulse/standart), < %10 (12 pulse), < % 5 (PFC Technology)										
OUTPUT											
Voltage	220 / 380, 230 / 400, 240 / 415 VAC ± %1 (Adjustable) 3 Phase + Neutral										
Frequency	50 or 60 Hz ± % 0.1 (independent from utility), 50 or 60 Hz ± %1 (synchronized working)										
Efficiency	Inverter > % 90, Eco-Mode >%97					Inverter > %91, EcoMode>%97					Inverter > %92, EcoMode>%98
Total Harmonic Distortion (THD-V)	< %3										
Power Factor	0,8										
Overload	Load ≤ %150 1 minutes, Load>%150 Static Bypass										
Voltage Protection	200VAC-240VAC (Inverter operation limits - Adjustable) 200VAC-240VAC (Eco-mode operation limits - Adjustable) 185VAC-255VAC (Static by-pass operation limits - Adjustable)										
Temperature Protection	IGBT Heatsink and Output Transformer temperature protection										
Crest factor	3:1										
BATTERY											
Voltage	405 VDC										
Quantity	30 units (standart)										
Time	Optional										
PHYSICAL PROPERTIES											
Temperature	0 - 40 °C										
Relative Humidity	%0-95 (Non-condensing)										
Audible Noise	<55 dB (A)			<60dB (A)				<65dB (A)			<70dB (A)
Operation altitude	2000 m.										
Type of Protection	IP20 (IP31 and IP54 is optional)										
Weight (without battery) (kg)	205	250	305	360	420	485	520	920	1070	1410	
GENERAL PROPERTIES											
Display	4 lines, 20 characters LCD monitor, Line, charge, discharge, Eco mode, Inverter, Bypass, Manual By-Pass, LED mimic diagram										
Warnings	32 memories for previous alerts (name, date, time), 4 fault report										
Working Type	Online double conversion - microprocessor controlled										
RFI Level	EN50091-2										
ECO Mode	Enhanced Intelligent ECO MODE feature,										
Technology	High frequency PWM technique, IGBT technology										
Communication	UPSet UPS server, terminal programs & RS232 cable is standard, Remote control over Internet or Ethernet by SNMP card and static TCP/IP number (optional).										
STATIC BYPASS											
Input Limit	185VAC-255VAC (adjustable)										
Transfer Time	0 ms										
Overload	%200 (adjustable), 10ms %2000, Fuse										



ISO 9001:2008



Defender Pro Series (200-600 kVA) Technical Specifications

POWER (KVA)	200KVA	300KVA	400KVA	500KVA	600KVA
INPUT					
Voltage	220 / 380, 230 / 400, 240 / 415 VAC ± %15 (Adjustable) 3 Phase + Neutral				
Frequency	50 or 60 Hz± %5				
Protection	Current restriction for each phase on rectifier input (In x 1.5) + Fuse				
Input Power Factor	> 0,8 (6 Pulse/standart), > 0.85 (12 Pulse), > 0,99 (PFC Technology)				
Total Harmonic Distortion (THD-I)	< %25 (6 pulse/standart), < % 10 (12 pulse), < % 5 (PFC Technology)				
OUTPUT					
Voltage	220 / 380, 230 / 400, 240 / 415 VAC ± %1 (Adjustable) 3 Phase + Neutral				
Frequency	50 or 60 Hz ± % 0.1 (independent from utility), 50 or 60 Hz ±%1 (synchronized working)				
Efficiency	Inverter > % 93, Eco-Mode > % 97		Inverter > % 94, Eco-Mode > % 98		
Total Harmonic Distortion (THD-V)	<%3				
Power Factor	0,8				
Overload	load %100-110 1 hour ,for %110-125 3 minutes, for %125-150 1 minute,				
	when load > %150 STATIC BY-PASS				
Voltage Protection	200VAC-240VAC (Inverter operation limits - Adjustable)				
	200VAC-240VAC (Eco-mode operation limits - Adjustable)				
	185VAC-255VAC (Static by-pass operation limits - Adjustable)				
Temperature Protection	IGBT Heatsink and Output Transformer temperature protection				
Crest Factor	3:1				
BATTERY					
Voltage	405 VDC	729 VDC			
Quantity	30 units (standard)	54 units (standard)			
Time	Optional				
PHYSICAL PROPERTIES					
Temperature	0 - 40 °C				
Relative Humidity	%0-95 (Non-condensing)				
Audible Noise	<70 dB (A) 1 meter		<75dB (A) 1 meter		
Operation Altitude	2000 m.				
Type of Protection	IP20 (IP31 and IP54 is optional)				
Weight (without battery) (kg)	1350	1425	1650	1800	2200
GENERAL PROPERTIES					
Display	4 lines, 20 characters LCD monitor, Line, charge, discharge, Eco mode, Inverter, Bypass, Manual By-Pass, LED mimic diagram				
Warnings	32 memories for previous alerts (name, date, time), 4 fault report				
Working Type	Online double conversion - microprocessor controlled				
RFI Level	EN50091-2				
ECO Mode	Enhanced Intelligent ECO MODE feature,				
Technology	High frequency PWM technique, IGBT technology				
Communication	UPSET UPS server, terminal programs & RS232 cable is standard,				
	Remote control over Internet or Ethernet by SNMP card and static TCP/IP number (optional).				
STATIC BYPASS					
Input Limit	185VAC-255VAC (adjustable)				
Transfer Time	0 ms				
Overload	Current restriction for each phase on rectifier input (In x 1.5) + Fuse				

