

## 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										





### 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				

