

BOXER

SERIES

10-800 kVA

10-30 kVA

ONLINE UPS



DATA CENTER



MEDICAL



TRANSPORT



INDUSTRY



EMERGENCY

3:3

PHASE

3:1

PHASE



UPS ONLINE



TOWER



POWER FACTOR



SERVICE



HIGHLIGHTS

- IGBT PWM Rectifier & Inverter Technology
- Low Input Current THD (<3%)
- High Input Power Factor (>0.99)

DSP Power Factor Corrected IGBT Rectifier

- Equipped with its new IGBT rectifier BOXER Series keeps your critical loads protected while its space-saving compact design and front access for maintenance successfully reduce mean time to repair (MTTR).
- Thanks to the wide variety of accessories and options BOXER Series presents maximum flexibility advantage to users and optimizes total cost of ownership.



The BOXER Series is attested by Bureau Veritas with regard to performance (EN 62040-3)

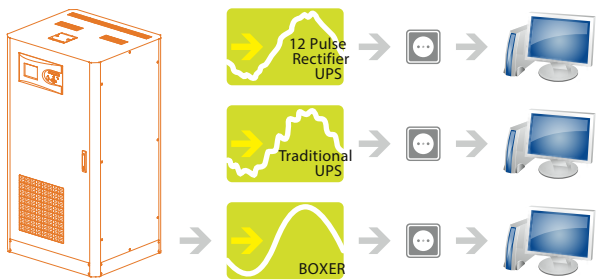


POWER
FORLIFE

Aytemiz
MAKELSAN®
Uninterruptible Power Supplies/Generator

High Performance & Low Total Cost of Ownership

- IGBT based power factor correction technology provides input power factor close to 1 ($\geq 0,99$). The high input power leads to reduced electricity pay-out, minimizes cable, switchboard, fuse and generator requirements, thus reducing investment cost.
- Low input current total harmonic distortion (THDi) less than 3% helps to avoid the disturbance and expensive harmonic filters.
- Small footprint and easy maintenance.



	THD	Power Factor
BOXER with IGBT Rectifier	<3%	<0.99
Traditional UPS with Input Filter	<10%	<0.95
UPS without Input Filter	<25%	<0.85

High Input Power Factor

- 0,99 Input power factor ensures clean and sinusoidal input current.
- The high input power leads to reduced electricity pay-out, minimizes cable, switchboard, fuse and generator requirements, thus reducing investment cost.

Maximum Availability

- Parallel configuration up to 8 units per redundancy (N+1) and power increase.
- Loop connection helps the UPS system to continue the operation when the connection cable is interrupted.

Standard Electrical Features

- Backfeed Protection
- Cold Start (Optional)
- Advanced Battery Management
- Short Circuit and Overload Protection
- Parallel Ready
- Redundant Power Supply
- Power Walk-in for Progressive Rectifier Start-up when the Mains is Restored.
- Battery Temperature Sensor
- Static & Manual Bypass Operation

Advanced Communication Features

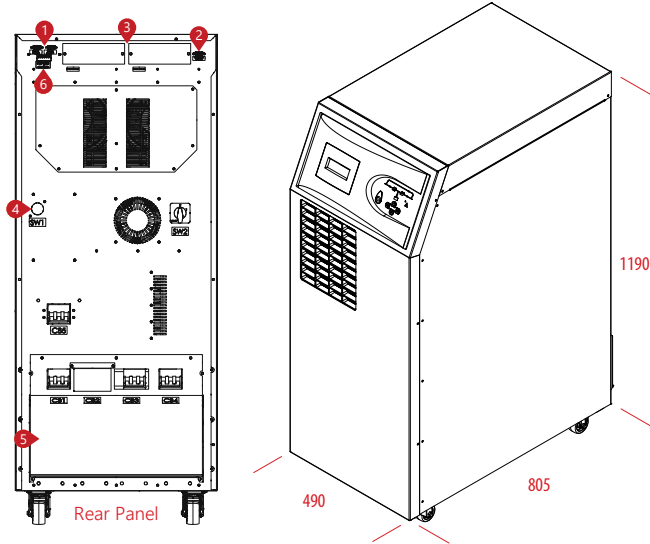
- 1500 Real Time Event Log with Detailed Parameters
- User Friendly Multilingual 320x240 Graphic Display Provides Operation Information
- Monitoring and Shutdown Software
- RS232 Serial and RS485 Ports
- 2 Communication Slots
- ModBUS RTU / ModBUS TCP (Optional)
- Remote Emergency Power Off (Optional)
- Remote Display Panel (Optional)
- Dry Contact (Optional)
- SNMP (Optional)
- ProfiBUS (Optional)

Flexibility

- Temperature sensor for external battery cabinets for extended runtimes.
- External battery cabinets for different sizes of batteries to provide extended runtimes.
- Frequency converter mode.
- Isolation transformers to vary neutral connectivity in the event of separate power sources or for galvanic isolation between input and output.
- Compatible version with EN 50171 for supplying power to emergency lighting systems.

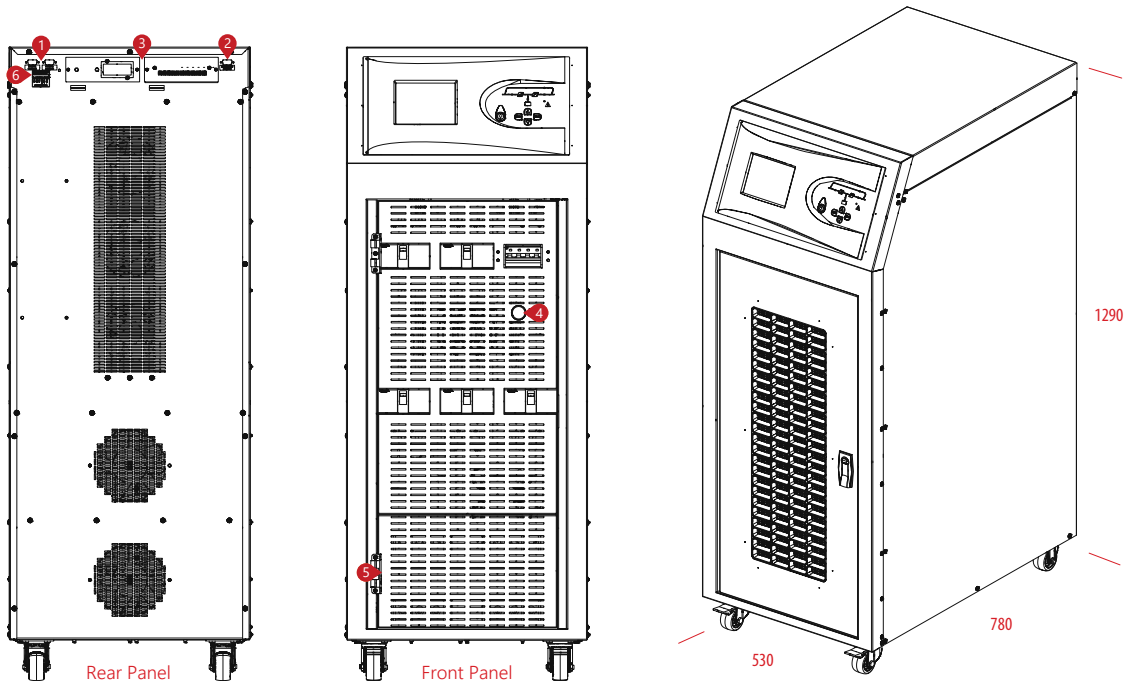
DETAILS

BOXER SERIES 10-15-20-30-40-60 kVA



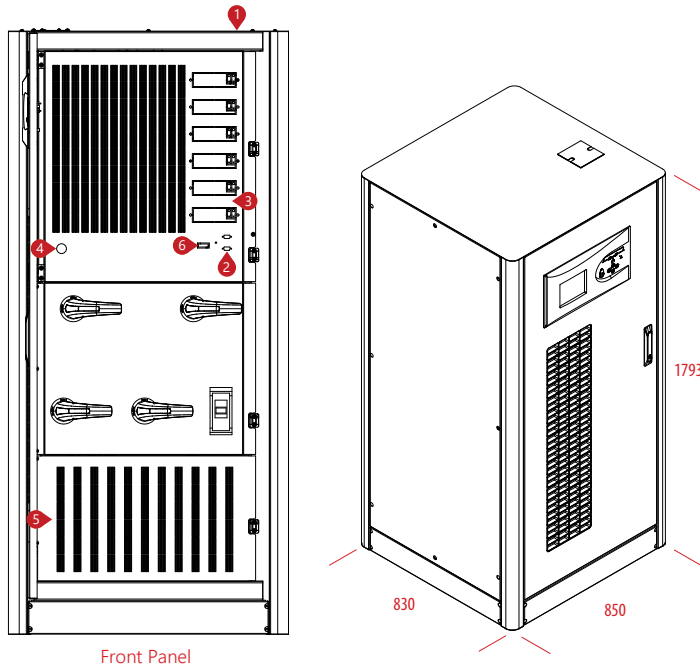
1. Parallel Port Terminal
2. RS232 Terminal
3. Optional Card Slots
4. DC Bus Ramping Up Button
5. Connection Terminal
6. External Battery Temperature Sensor Terminal

BOXER 80-100-120 kVA



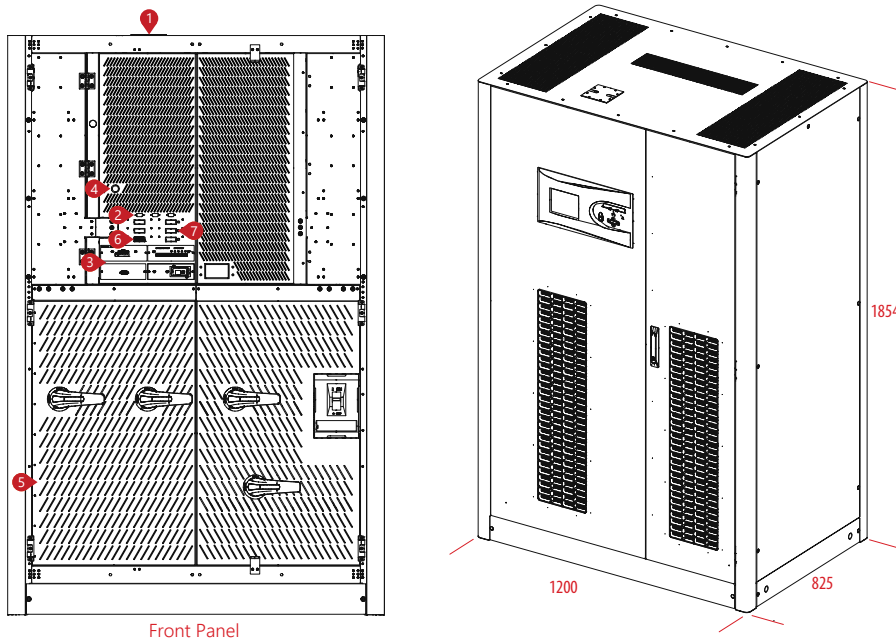
DETAILS

BOXER SERIES 160-200 kVA



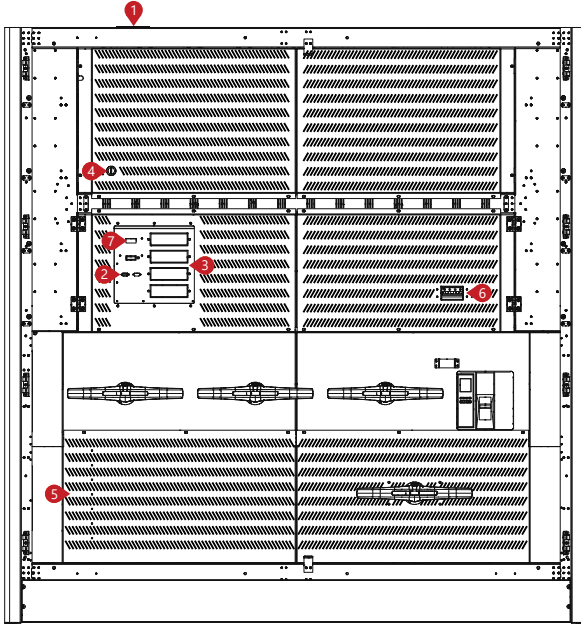
1. Parallel Port Terminal
2. RS232 Terminal
3. Optional Card Slots
4. DC Bus Ramping Up Button
5. Connection Terminal
6. External Battery Temperature Sensor Terminal

BOXER SERIES 250-300-400 kVA

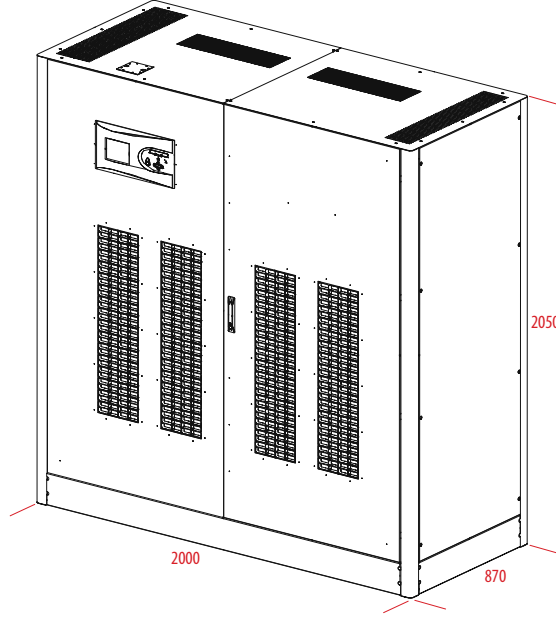


DETAILS

BOXER 500-800 kVA



Front Panel



1. Parallel Port Terminal
2. RS232 Terminal
3. Optional Card Slots
4. DC Bus Ramping Up Button
5. Connection Terminal
6. External Battery Temperature Sensor Terminal
7. Optional Slot

MODEL											
Capacity		10kVA	15kVA	20kVA	30kVA	40kVA	60kVA	80kVA	100kVA	120kVA	
Power Watt		9kW	13.5kW	18kW	27kW	36kW	54kW	72kW	90kW	108kW	
INPUT											
Nominal Voltage		380/400/415 VAC 3 P+N (Optional 220/380 VAC -37% +22% 3 P+N+PE)									
Voltage Tolerance		-20% +15%									
Frequency Tolerance		50 / 60 Hz ±10% (Selectable)									
Power Factor		>0.99									
Total Harmonic Distortion (THDi)		<3%									
OUTPUT											
Power Factor		0.9									
Nominal Voltage		380/400/415 VAC 3 P+N									
Voltage Tolerance		Statik ±1, Dynamic ±3									
Frequency Tolerance		50 / 60 Hz ±0,01% (Battery Mode)									
Output THD		Linear Load <1% / Non-Linear Load <3%									
Crest Factor		3:1									
Overload Capacity*		At 125% Load 10min, At 150% Load 1min									
Efficiency (Online Mode)		Up to 92%									
Efficiency (Eco Mode)		Up to 99%									
BYPASS											
Nominal Voltage		380/400/415 VAC 3 P+N									
Voltage Tolerance		%15 (Configurable from 10% to 30%)									
Frequency Tolerance		±5 (Selectable)									
BATTERY											
Type		VRLA / GEL									
Quantity (12V DC VRLA)		62									
Charge Capacity		25% of Active Power (Nominal 0,1 C10, Adjustable)									
Recharge Time		6-8 hours									
Internal Battery		62 x 7Ah or 9Ah					External Battery				
ENVIRONMENTAL											
Operating Temperature		For UPS 0°C/+40°C For Battery +15°C/+25°C									
Storage Temperature		For UPS -15°C/+45°C For Battery 0°C/+30°C									
Protection Class		IP20									
Humidity		0-95% (Without Condensation)									
Altitude		<1000m: Correction Factor 1, <2000m: Correction Factor >0.92, <3000m: Correction Factor >0.84									
Noise Level		<53dBA		<55dBA		<60dBA		<65dBA			
COMMUNICATION											
Communication Port		RS232 Standart, RS485 and SNMP Adapter Option									
STANDARDS											
Quality		ISO 9001, ISO 14001, ISO 45001, ISO 10002, CE, TSE, TSE-HYB									
Performance		EN62040-3 (VFI-SS-111, Bureau Veritas Certified)									
EMC/LVD		EN62040-2, EN62040-1, TS EN ISO/IEC 17025 Accredited Test Report									
DIMENSIONS & WEIGHT		10kVA	15kVA	20kVA	30kVA	40kVA	60kVA	80kVA	100kVA	120kVA	
Cabinet Dimensions (mm)	Width	490						530			
	Depth	805						780			
	Height	1190						1290			
Net Weight (kg)		125	126	131	145	167	177	213	226	236	
Packaging Dimensions (mm)	Width	600						650			
	Depth	900						900			
	Height	1400						1400			
Gross Weight (kg)		145	146	151	166	185	195	232	245	255	

* under certain conditions.

3 Phase in / 1 Phase Out Version is Available. (10 to 30kVA)

Aytemiz-Makelsan reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Aytemiz-Makelsan products previously or subsequently sold. Aytemiz-Makelsan does not guarantee the items of the accuracy and completeness.

MODEL									
Capacity		160kVA	200kVA	250kVA	300kVA	400kVA	500kVA	600kVA	800kVA
Power Watt		144kW	180kW	225kW	270kW	360kW	450kW	540kW	720kW
INPUT									
Nominal Voltage		380/400/415 VAC 3 P+N (Optional 220/380 VAC -37% +22% 3 P+N+PE)							
Voltage Tolerance		-20% +15%							
Frequency Tolerance		50 / 60 Hz ±10% (Selectable)							
Power Factor		>0.99							
Total Harmonic Distortion (THDi)		<3%							
OUTPUT									
Power Factor		0.9							
Nominal Voltage		380/400/415 VAC 3 P+N							
Voltage Tolerance		Statik ±1, Dynamic ±3							
Frequency Tolerance		50 / 60 Hz ±0,01% (Battery Mode)							
Output THD		Linear Load <1% / Non-Linear Load <3%							
Crest Factor		3:1							
Overload Capacity*		At 125% Load 10min, At 150% Load 1min							
Efficiency (Online Mode)		Up to 92%							
Efficiency (Eco Mode)		Up to 99%							
BYPASS									
Nominal Voltage		380/400/415 VAC 3 P+N							
Voltage Tolerance		15% (Configurable from 10% to 30%)							
Frequency Tolerance		±5 (Selectable)							
BATTERY									
Type		VRLA / GEL							
Quantity (12V DC VRLA)		60							
Charge Capacity		12.5 % of Active Power (Nominal 0,1 C10, Adjustable)							
Recharge Time		6-8 hours							
Internal Battery		External Battery							
ENVIRONMENTAL									
Operating Temperature		For UPS 0°C/+40°C For Battery +15°C/+25°C							
Storage Temperature		For UPS -15°C/+45°C For Battery 0°C/+30°C							
Protection Class		IP20							
Humidity		0-95% (Without Condensation)							
Altitude		<1000m: Correction Factor 1, <2000m: Correction Factor >0.92, <3000m: Correction Factor >0.84							
Noise Level		<72dBA					<74dBA		
COMMUNICATION									
Communication Port		RS232 Standart, RS485 and SNMP Adapter Option							
STANDARDS									
Quality		ISO 9001, ISO 14001, ISO 45001, ISO 10002, CE, TSE, TSE-HYB							
Performance		EN62040-3 (VFI-SS-111, Bureau Veritas Certified)							
EMC/LVD		EN62040-2, EN62040-1, TS EN ISO/IEC 17025 Accredited Test Report							
DIMENSIONS & WEIGHT		160kVA	200kVA	250kVA	300kVA	400kVA	500kVA	600kVA	800kVA
Cabinet Dimensions (mm)	Width	830		1200			2000		
	Depth	870		825			870		
	Height	1800		1854			2050		
Net Weight (kg)		475	490	645	830	840	1195	1510	1740
Packaging Dimensions (mm)	Width	900		1370			2100		
	Depth	970		845			950		
	Height	2040		2040			2250		
Gross Weight (kg)		505	520	695	870	880	1345	1590	1820

* under certain conditions.

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