

BOXER

SERIES

10-1000 kVA

10-30 kVA

ONLINE UPS

3:3

PHASE

3:1

PHASE

elektroiz
ELEKTRİK & ELEKTRONİK



UPS ONLINE



TOWER



POWER FACTOR



SERVICE



DATA CENTER



MEDICAL



TRANSPORT



INDUSTRY



EMERGENCY

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)

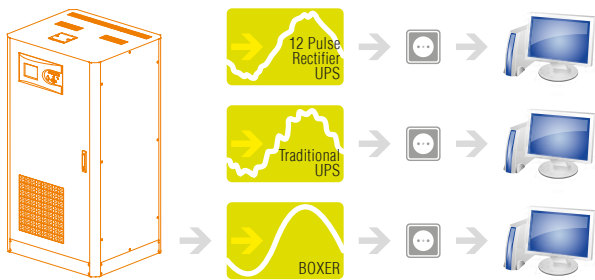


POWER
FORLIFE

Aytemiz
MAKELSAN®
Uninterruptible Power Supplies

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.

MODEL																		
Capacity		10kVA	15kVA	20kVA	10kVA	15kVA	20kVA	30kVA	40kVA	60kVA	80kVA	100kVA	120kVA	80kVA	100kVA	120kVA		
Power Watt		9kW	13.5kW	18kW	9kW	13.5kW	18kW	27kW	36kW	54kW	72kW	90kW	108kW	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			60 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			<53dBA			<55dBA			<60dBA			<65dBA			<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	10kVA	15kVA	20kVA	30kVA	40kVA	60kVA	80kVA	100kVA	120kVA	80kVA	100kVA	120kVA		
Cabinet Dimensions (mm)	Width	370			490						530			763		810		
	Depth	660			805						780			771		820		
	Height	850			1190						1290			1555		1705		
Net Weight (kg)		85	85	85	125	126	131	145	173	323	222	231	240	331	353	368		
Packaging Dimensions (mm)	Width	500			600						650			900		900		
	Depth	760			900						900			970		970		
	Height	1000			1400						1400			2040		2040		
Gross Weight (kg)		105	105	105	145	146	151	166	193	353	253	261	270	361	383	398		

* under certain conditions.

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

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MODEL										
Capacity		160kVA	200kVA	250kVA	300kVA	400kVA	500kVA	600kVA	800kVA	1000kVA
Power Watt		144kW	180kW	225kW	270kW	360kW	450kW	540kW	720kW	900kW
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		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			<75dBA	
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	1000kVA
Cabinet Dimensions (mm)	Width	830			1200			2000		
	Depth	870			825			870		
	Height	1800			1854			2050		
Net Weight (kg)		475	490	553	830	840	850	1510	1740	1740
Packaging Dimensions (mm)	Width	900			1370			2100		
	Depth	970			845			950		
	Height	2040			2040			2250		
Gross Weight (kg)		505	520	583	870	880	890	1590	1820	1820

* under certain conditions.

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