Aytemiz MAKELSAN
Uninterruptible Power Supplies/Generator

POWER FORLIFE

HF S SERIES

ON-LINE UPS

10 - 20kVA 3:1 PHASE 3:3 PHASE



- Boxer S RM Model
- High Frequency and True Double Conversion Technology
- DSP (Digital Signal Processor) Technology
- Input Power Factor Correction (PFC)
- Output Power Factor 0.9
- Ups/Rack Mount 19” 3U
- Transformer/Rack Mount 19” 4U

DATA CENETR | MEDICAL | INDUSTRY | TRANSPORT | EMERGENCY

VFI TYPE — ON-LINE UPS
PF 0.9 — POWER FACTOR
RACK
24H — SERVICE

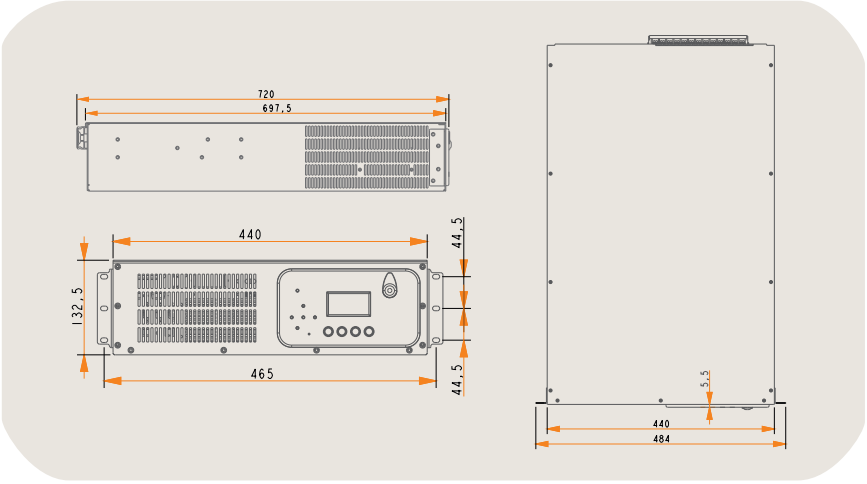
- Cold start (opsiyonel)
- It operates in 50/60 Hz mains networks with automatic frequency detection.
- ECO Mode Operation for Energy Saving
- Selectable Output Voltage via LCD
- 50Hz/60Hz Frequency Converter Mode Available
- The number of batteries (16–40 units) can be set via the LCD.
- Self-test on startup
- Advanced Battery Management (ABM)
- 128x64 graphic LCD display
- LED-based mimic diagram
- Advanced Switching Techniques with True Double Conversion
- DRY contact (optional)
- ModBUS (optional)
- Emergency Power Off (EPO)
- Generator compatibility
- External battery bank (optional)
- Short circuit and overload protection
- High PFC performance even at very low load conditions
- External battery temperature sensing and battery charging voltage adjustment
- Standard RS232 communication port
- SNMP communication port (optional)
- Simultaneous communication via RS232 and SNMP (optional)

TSE TSE-HYB CE

MODEL		HF S SERIES(BOXER S RM MODEL)		
Capacity		10kVA / 9kW	15kVA / 13,5kW	20kVA / 18kW
INPUT				
Connected Voltage		380 / 400 / 415VAC 3 P+N+PE,(380VAC -18% +15%)		
Voltage Range		45 ~ 65Hz		
Power Factor		≥0,99		
Harmonic Distortion		≤3% (On Fully Non-Linear Load)		
ECO Range		Maximum voltage values are 220V: +25% (optional: +10%, +15%, +20%), 230V: +20% (optional: +10%, +15%), and 240V: +15% (optional: +10%), while the minimum voltage is -45% (optional: -20%, -30%).		
Generator		Compatible		
OUTPUT				
Voltage Range		380 / 400 / 415VAC 3 P+N (optional 220 / 230 / 240VAC) ±1% 1P+N		
Power Factor		0.9		
Voltage Regulation		± %1 Static, ± %3 Dynamic		
Frequency	AC Mod	±1%, ±2% , ±4%, ±5%, ±10% (Optional)		
	Battery Mod	50/60 ± 0,1Hz		
Waveform		Pure Sine Wave		
Crest Factor		3:1		
Harmonic Distortion		≤2% (Linear Load), ≤5% (Non-Linear Load)		
Transfer Time		From Battery Mode to Inverter Mode: 0 ms, From Inverter Mode to Bypass Mode: 0 ms		
Output Dynamic Tolerance		At 100% load: ±5%		
Overload Capacity	AC Mod	≤110%: 60 min; ≤125%: 10 min; ≤150%: 1 min; ≥150%: immediate switch to Bypass Mode		
	Battery Mod	>150%: Bypass Mode		
Parallel Operation		Optional		
BYPASS(STATIC)				
Voltage		380 / 400 / 415VAC 3 P+N (optional 220 / 230 / 240VAC) ±1% 1P+N		
Voltage Tolerance		±15% (configurable within the ±1% ~ ±25% range)		
Bypass Overload		≤150%: 10 min; ≤200%: 1 min; >200%: immediate protection activation		
Frequency Tolerance		±5% (configurable in the range of ±1% ~ ±25%)		
EFFICIENCY				
AC Mod		93,5%	94,5%	
Battery Mod		92,5%	93,5%	
ECO Mod		98%		
BATTERY				
DC Voltage		240~480 VDC	360~480 VDC	360~480 VDC
External Battery		20-40 (+1 expandable)	30-40 (+1 expandable)	30-40 (+1 expandable)
Charging Current		5A		
Average Charging Time		8 hour		
PROTECTION				
Full Protection		Overload, Short Circuit and Battery Charge-Discharge Protection, RFI/EMI Filter		
SYSTEM FEATURES				
Charging Current		Intelligent Charging System		
Overtemperature		Mains Mode: Switches to bypass; Battery Mode: Immediately shuts down UPS		
Intelligent Alarm System		Mains Failure, Low Battery, Overload, System Fault, Overtemperature		
LED and LCD Monitor		Mains Mode, Battery Mode, Bypass Mode, Low Battery, Overload & FC Fault, Overtemperature		
ALARM				
Mains Failure		Mains Mode, Low Battery, Overload, System Fault		
Low Battery		Alarm and Shutdown		
Overload		Overload		
UPS Fault		System Fault		
ENVIRONMENTAL				
Operating Temperature		0°C ~ 40°C		
Storage Temperature		-25°C ~ 55°C		
Protection Class		IP20		
Humidity		0% ~ 90%		
Altitude		<1500 m		
Noise Level		<50 dB		
COMMUNICATION				
Communication Interface		Standart (RS232), Optional (RS485, Paralel Port, Dry Contact, SNMP, Cold Start)		
Software		SEC, TELNET		
Emergency Power Off (EPO)		Standart		
STANDARD				
Quality Certificates		ISO 9001, ISO 14001, ISO 45001, ISO10002, CE, TSE, TSE HYB		
LVD/Safety		IEC/EN62040-1		
EMC		IEC/EN 62040-2		
DIMENSIONS & WEIGHT				
Dimensions W×D×H (mm)		484x720x132,5		
Net Weight (kg)		30	31	34

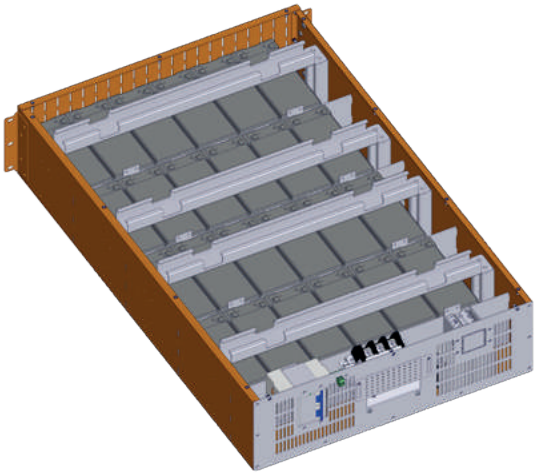
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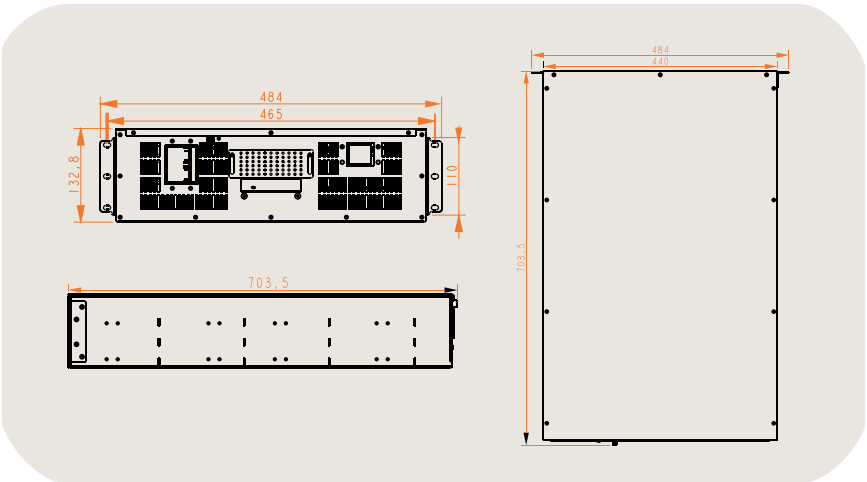




MODEL	BATTERY CABINET
Capasite	10-20kVA
INPUT	
Battery Capacity	16 x 12Ah yada 20 x 7/9Ah
Fuse	Fuse Protection Section
Protection Class	IP20
Connection	Terminal or SB50 Connection Terminal
DIMENSIONS	
Dimensions W × D × H (mm)	484x703x132,8
Net Weight (kg)	14
Max Internal Battery Net Weight (kg)	68

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Optional Rack-Type Isolation Transformer (3:1)

MODEL	Rack-Type Isolation Transformer
Capacity	10-20 kVA
Input Information	220/230/240VAC
Output Information	220/230/240VAC
Connection Type	Fuse / Circuit Breaker Protection Section
Bypass	MCB (Miniature Circuit Breaker) (optional) Auxiliary Contact (optional)
Protection Class	IP20
Cooling Type	Fan
Dimensions	
Dimension(G - D - Y)mm	484x723x178

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*When the optional bypass is selected, the device's MCB is installed on the transformer cabinet.

Front Panel



Rear Panel



Sample Installation

The product is configurable according to customer requirements, and dimensions and measurements may vary.



ISOLATIONTRANSFORMER

Technical Drawing

