

# ES series On-line Sinewave UPS



## Salient Features

- 50KHz High Frequency Operation
- Compact size, light weight, low shipping costs
- Double conversion true Sinewave output
- Intelligent  $\mu$ Cont based design
- Large input operating range, eliminates unnecessary battery discharge
- Long backup time option
- Near unity power factor, high AC-AC efficiency
- RS 232 Interface
- Superior output voltage regulation

Over 35 years  
of Commitment and Service to customers

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## Technical Specifications

UPS Models	ES1004	ES2004	ES3004
Capacity & Output	1KVA/800W	2KVA/1600W	3KVA/2400W
Current Rating	4 Amps	8.7 Amps	13.6 Amps
Battery Input, Internal-7 AH Bank	36Vdc	96Vdc	96Vdc
Input Voltage	160-295 Vac for > 70% linear load, Input voltage range will improve to <120V for <50% load		
Input Frequency	45 - 55Hz		
Input Power factor	Near Unity. >0.95		
Charger, Internal	Float charger, CV/CC, 1.4A/SMPS, approx. 8 hours charge-up time to 90% capacity		
Battery Type Internal	SMF, with option to connect an external battery bank, with charger for higher run-time requirements in the ESxxxL/ESxxxXL series UPS		
Backup Time, with internal battery bank	5 min. at Full load & 12 min. at Half load	8 min. at Full load & 19 min. at Half load	5 min. at Full load & 16 min. at Half load
Output Voltage	220Vac $\pm$ 2%		
Output Frequency, battery mode	50Hz $\pm$ 2%		
Freq. Synchronisation	Inverter output frequency is synchronized with the line input		
Efficiency, AC-AC	83%	85%	85%
Waveform	Sinewave		
Distortion at linear and at non-linear load	<3% at full load and <4%	<5%	<5%
Bypass Function, Utility Mode to / from battery Mode	The UPS uses the Input AC line as its stand-by source. in case of an O/L condition, the UPS will automatically transfer to the bypass line, if healthy input conditions exist, within 4 msec (2.5ms typ.) to ensure that the critical load(s) continue to operate		
Auto Restart	Yes		
Cold/Black Start	Yes		
Over Load, Transfer to Bypass	> 110% of FL: 30 seconds delay, 150% of FL: 200 msec. delay		
Protections	Input or Output UV/OV conditions. Inverter shutdown protection, Short circuit on output. The UPS shuts down & won't transfer to bypass mode, will work normally once short circuit condition is removed		
Crest factor	Better than 3		
Ambient Conditions	0 - 40°C, 0 - 95%RH/Non condensing		
Audible Noise	< 50 dBA at 1 metre		
Computer Interface	LAN/RS232 Interface: Mains Fail, Battery Low, Remote Shutdown		
Cooling	Convection		
Dimensions in mm W x D x H	144x412x213	191x470x338	191x470x338
Packed Weight, with internal battery	15 Kg.	35 Kg.	36 Kg.

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\* Specs are subject to change without prior notice.