Product brochure

Eaton 93E UPS

40-60 KVA

The Eaton® 93E UPS gives IT managers an easy way to manage the power in their data center, without having to worry about cost, space or downtime. Developed specifically for IT managers, the 93E confronts typical data center problems head on. It addresses ROI, energy costs, remote management, and efficiency, giving you more time to focus on other important data center issues.

Lower operating costs through energy-efficient performance

- Delivers up to 98 percent efficiency
- Up to 7 percent more efficient than competitive units
- Qualifies for local utility rebates and incentives

Maximum runtime using internal batteries

- Delivers up to 21 minutes of runtime
- Delivers up to 138 minutes of runtime when paired with Extended Battery Cabinets (EBC)
- Allows you to scale up as you grow
- Provides greater runtime at lower costs

Detachable maintenance bypass options guarantee zero downtime

- Allows you to redirect power during UPS maintenance and servicing
- Reduces repair time and costs

Occupy less floor space with a compact footprint

- Up to 35 percent smaller than similar competitive solutions
- Allows dedication of more floor space to revenue-producing equipment
- Industry-leading runtimes mean fewer accessories

Applications

- Small-to-medium data centers
- Servers, networks, lighting
- Telecom switches and servers
- Medical imagery equipment
- Banking infrastructure
- Mission critical fabrication equipment

Powering Business Worldwide

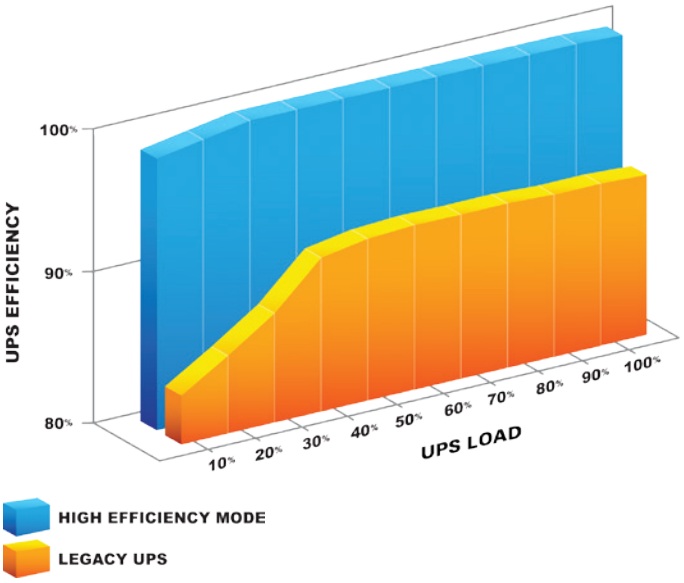
Lowest total cost of ownership

The 93E is the clear choice if you're seeking to maximize your return on investment (ROI). Delivering the lowest TCO of any UPS in its class, the 93E offers a unique blend of energy, space and installation savings. The 93E can decrease your TCO by more than $85,000 over its 12-year lifespan when compared to current competitive offerings.*

Savings

Energy	**$71,292**
Space	**$11,880**
Installation, maintenance and freight	**$2,000**
TOTAL	**$85,000+**

** Energy calculation based against a 60 kVA UPS operating at 91% efficiency (kW/hr $0.10, Cooling Ratio 80%, 12 yrs). Space saving calculation based against a 60 kVA UPS with an 11.8 ft² footprint using $150/ft² per year.*



Energy-efficient design

The 93E is capable of achieving up to a 98 percent efficiency rating, making it one of the most energy-efficient UPSs in its class — and it still provides maximum load protection. Unlike most high-efficiency UPSs, the 93E:

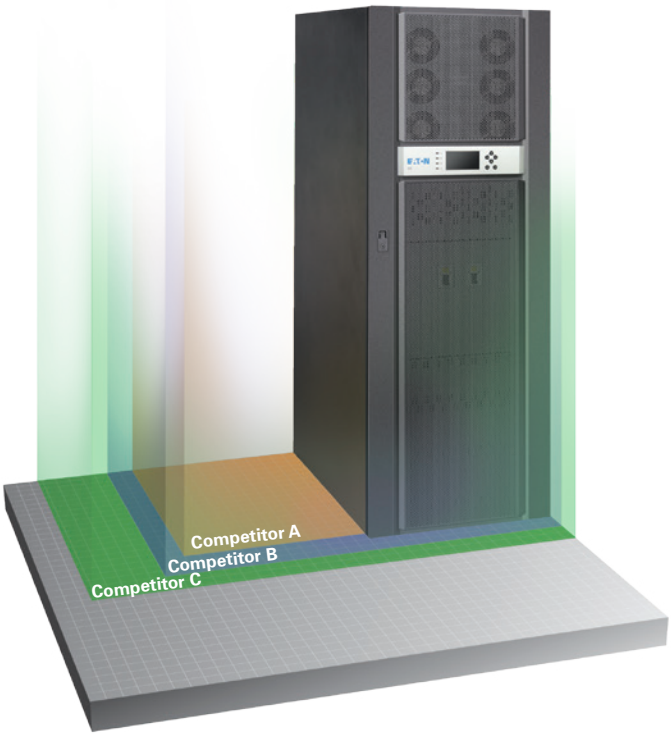
- Provides surge suppression for the load
- Detects the location of faults (utility or load) and takes the appropriate action
- Switches to double-conversion operation in less than 4 ms

The 93E will save more than $71,292 in electricity and cooling costs over the life of the product when compared to a 60 kVA UPS operating at 91 percent efficiency.

Compact footprint

Smaller than any comparable competitor by up to 35 percent, the 93E allows you to better utilize floor space for revenue-producing equipment. It also puts money back in your pocket that would otherwise be used to build, maintain and condition space for larger power and support equipment. The ongoing annual maintenance cost for office and data center space in the United States is estimated to be between $90 and $224 per square foot. The savings realized from the 93E's smaller footprint quickly adds up.

60 kVA	Width (in)	Depth (in)	Height (in)	Footprint (sq/ft)
Eaton 93E	23.6	31.5	74.9	5.2
A	45.3	30.0	72.0	9.4
B	48.0	35.5	81.5	11.8
C	56.8	38.0	78.5	15.0



Installation

Reduced installation costs mean the 93E can be up and supporting your loads faster, while lower installation and wiring costs to further reduce its TCO.

- Optimized angled connections reduce bending radius of input and output wiring
- Clear wiring terminal block access ensures easy connections
- Integrated wheels facilitate easy movement to final location

Serviceability

The 93E is easily and quickly serviced to provide the highest level of availability.

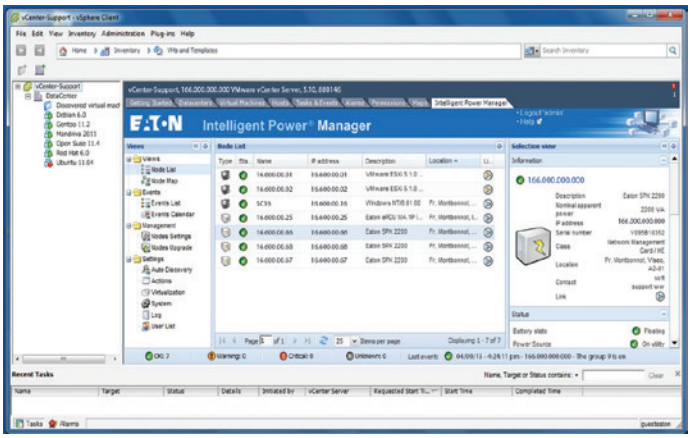
- Mean Time to Repair (MTTR) <30 minutes
- Screws are attached to components to prevent accidental drops into the unit
- An optional detachable sidecar allows for quick and inexpensive unit maintenance, while maintaining your load

Software

Enhance the capabilities of your 93E by integrating it with Eaton's Intelligent Power® Software Suite (IPSS) to monitor and manage your network power devices. IPSS enables you to:

- Seamlessly integrate with VMware's vCenter™ and other virtualization platforms, such as Citrix® XenServer, Microsoft SCVMM™, Red Hat® and other Xen® open source platforms
- Initiate live migration of virtual machines (VMs) to automatically and transparently migrate them during power disruptions to unaffected devices with systems such as VMware vMotion™ and Microsoft Live Migration
- Agentless remote shutdown of computers and VMs and host servers during an extended power outage
- Extend battery runtime through sophisticated load shedding capabilities

To learn more, please visit: **Eaton.com/intelligentpower**



Eaton's Intelligent Power Manager

Accessories

Extended Battery Cabinet (EBC)

Matching EBCs give the 9E flexible runtime options to meet any requirement needs and allow you to scale up as you grow.

Integrated Accessory Cabinet (IAC)

Several configurations of the IAC are available:

- Parallel tie and maintenance bypass
- Distribution with one 42-pole panelboard with up to three subfeed breakers

Maintenance bypass options

- New 8-inch wide sidecar options available to reduce repair time and costs
- Allows you to remain online by redirecting power during maintenance
- Right- or left-mount capable

Integrated Transformer Cabinet (ITC)

Houses transformer configurations to adjust input or input/output voltages to meet location requirements

- 480V:208V
- 480V:480V

Wall-mount bypass

Save even more floor space with an Eaton wall-mount bypass panel, available in two configurations:

- Bypass
- Bypass and 36-pole distribution

TECHNICAL SPECIFICATIONS[1]

POWER	
Ratings	20 kVA/16 kW, 30 kVA/24 kW, 40 kVA/32 kW and 60 kVA/48 kW
Topology	Double-conversion online UPS
Electrical Input	208/120V, 4 wire or 220/127V, 4 wire
Input Voltage Range	-15%, +10% from nominal at 100% load without depleting battery
Operating Frequency	50/60 Hz (40 to 72 Hz)
Input Power Factor	>0.99 typical
Input Current Distortion	5% THD
ELECTRICAL OUTPUT	
Nominal Output Voltage	208/220, 3/4 wire
Output Voltage Regulation	±1% Static; ±5% dynamic at 100% resistive load change, <20 ms response time
BATTERY	
Battery Type	9 Ah, sealed, lead-acid, maintenance-free
Battery Runtime (100% Load)	20 kVA - 21 minutes, 30 kVA - 12 minutes, 40 kVA - 10 minutes, 60 kVA - 5 minutes
Battery Replacement	Field-replaceable
Charging Method	ABM (Cyclic) or float
GENERAL	
Efficiency	Up to 98% High-efficiency mode Up to 92% Double-conversion
UPS Bypass	Automatic on overload or UPS failure
Dimensions W x D x H, in (mm)	20-30 kVA - 20.9 x 31.5 x 53.5 (530 x 800 x 1360) 40-60 kVA - 23.6 x 31.5 x 74.9 (600 x 800 x 1880)
Weights	20-30 kVA - 1049.4 lbs, 476 kg 40-60 kVA - 1499.1 lbs, 680 kg
Overload	150% for 40 ms / 125% for 30 seconds 110% for 10 min

COMMUNICATIONS	
Display	Graphical LCD with blue backlight
LEDs	(4) LEDs for notice and alarm
Audible Alarms	Yes
Communication Ports	(1) RS-232, (1) REPO
Communication Slot	(2) Mini-slot communication bays (3) Building inputs
ENVIRONMENTAL	
Operating Temperature	0°C (32°F) to +30°C (86°F); Batteries recommended max. +25°C (77°F)
Storage Temperature	-25°C (-13°F) to +55°C (131°F) without batteries +15°C (59°F) to +25°C (77°F) with batteries
Relative Humidity	5–95%, non-condensing
Audible Noise	< 65 dBA at 1 meter (noise less room) typical
Altitude	< 1500m at +30°C (86°F)
CERTIFICATIONS	
Safety Certifications	UL1778
EMI Standards	EN55022/EN55024
EMC Compliance	IEC 62040-2
Quality	ISO 9001: 2000 and ISO 14001:1996
Markings	UL, cUL

1. Due to continuous product improvements, program specifications are subject to change without notice.

9E EBC runtimes

kVA	Internal runtime (minutes)	Internal + external runtime (minutes)
20	21	138
30	12	84
40	12	128
60	6.6	77

Graphical LCD display shows UPS status and offers easy access to options and settings.

For more information visit: **Eaton.com/93E**

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