Product brochure
Eaton 93E UPS 15-200 kVA

Eaton **93E UPS**

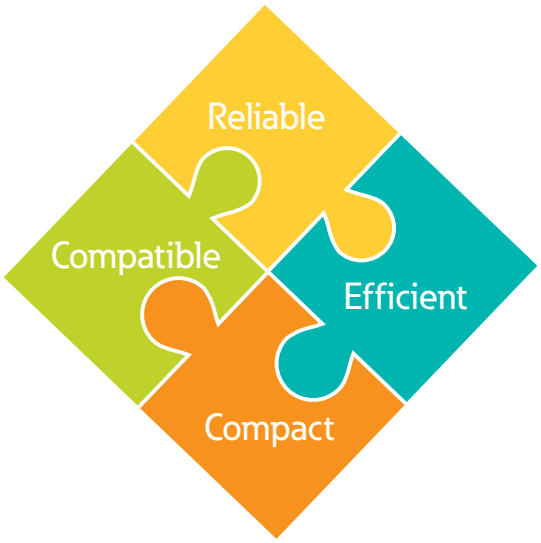
Practical and versatile power protection ready to drive your goals.



Powering Business Worldwide

Eaton 93E - Practical and versatile

Eaton 93E UPS provides a vital power protection for ever-expanding loads in versatile electrical and IT applications. Facilitating lower Total Cost of Ownership (TCO) through a combination of energy-efficiency, high reliability and a compact footprint, Eaton 93E is the ideal solution for small to medium-sized data centers and other applications demanding reliable power protection.



POWER RATING

15-200 kVA

EFFICIENCY up to

96.1 %



60 YEARS OF EXPERTISE

Over 60 years of UPS Leadership

Eaton's long history of UPS expertise encompasses small, medium and large data centers as well as industrial applications. We have a deep understanding of our customers' needs, ensuring more efficient and more reliable power supply solutions.

Innovation is integral to our heritage, with patented systems such as Best Power, Powerware, MGE Office Protection Systems and B-Line. Eaton 93E belongs to our long-line family of market-leading, technologically advanced UPSs for versatile applications.

Your versatile UPS

Whatever your application, Eaton 93E UPS offers the power performance, reliability, compatibility and efficiency you need.

It is ideal for:

- Industrial automation equipment
- Healthcare
- Small and Medium data centers
- Financial services
- Building management
- Telecommunications
- Government

Eaton's multiple solutions help you drive your goals so your business can achieve maximum excellence.





Reliable

By the merits of its long experience, Eaton has developed a design and manufacturing process that is proven to be reliable. Moreover, regardless of application, Eaton's UPSs benefit from the wide service network and monitoring options that will deliver peace of mind.

Safe and easy installation

Designing safe electrical installations are made easy for the designers and end users of Eaton UPS. The important safety requirements are implemented into the UPS design as standard.

The UPS safety standard (IEC/EN 62040 Part 1) requires backfeed isolation device to be connected to the UPS static bypass path due to human safety under thyristor short circuit condition. **Unlike many in the market, Eaton UPSs come with an internal backfeed isolation contactor integrated in the unit**. This also guarantees that a shorted thyristor will have no effect on the double conversion operation of the UPS, removing the single point of failure. All Eaton 93E models include an internal backfeed protection device, ensuring compliance and eliminating any unnecessary costs and effort installing an external device.

Reliable load sharing

Patented Eaton Hot Sync® technology makes it possible to parallel up to four UPSs for increased redundancy or capacity. The technology enables load sharing without any communication between the units, thus eliminating a single point of failure.

Increased battery life

Eaton's Advanced Battery Management (ABM) extends the life of valve-regulated lead-acid (VRLA) batteries, through an intelligent charging routine. This prevents unnecessary charging and significantly retards the battery wear rate. ABM technology is a widely used and accepted technology with a 30-year proven track record.

At your service everywhere

With three Power Quality manufacturing facilities in the EMEA region, plus a strong local service presence, Eaton will provide your UPS with expert support from day one to the end of its service life.

Peace of mind

Eaton has a service team on call 24/7, to minimize risks through early detection of problems and timely action, before disturbances or downtime result.

There are over 150 Eaton field engineers operating across EMEA – all comprehensively trained and continually updated on the latest products and technologies.

The dedicated support package they provide will ensure your equipment runs safely, reliably, sustainably and with the utmost energy efficiency, at all times.

Service contracts

At Eaton, we like to keep things simple. So, we have compiled service plans to match different types of maintenance needs and budgets. Whichever plan you choose, you can rest assured it will deliver power security and reliability that will keep your business running.

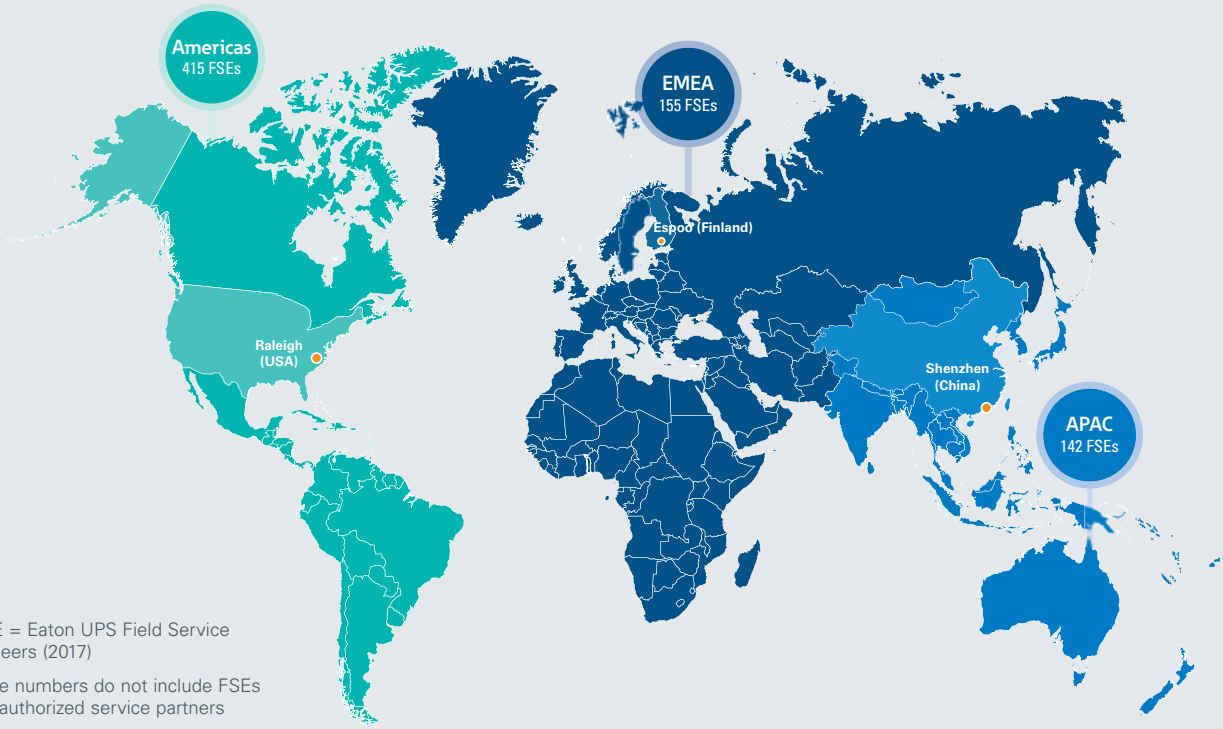
Move to a 24/7 Remote Service

We can offer service plans which are both faster and greener. These plans are designed to provide the highest level of service to cover your needs and offer you the full peace of mind.

Benefits*:

- increased power reliability
- peace of mind (Eaton experts available)
- stay informed
- faster response time/improved First Time Fix rate
- Eaton expert analysis
- optimized preventive maintenance
- overall system monitoring and reporting

*Availability of the benefits is country-dependent. Please contact your Eaton service office to check the local agreements.



* FSE = Eaton UPS Field Service Engineers (2017)

** The numbers do not include FSEs from authorized service partners

More intelligence

Eaton 93E is an intelligent UPS, which is both virtualization and cloud-ready. The LCD graphically displays the UPS status and offers easy access to measurements, controls and settings in multiple languages.

Single pane of glass

Utilizing Eaton's Intelligent Power Software (Intelligent Power Manager – IPM – and Intelligent Power Protector – IPP), Eaton 93E integrates with leading virtualization and storage platforms, and allows users to view, monitor and administer physical and virtual servers, UPSs, PDUs and other power devices, from a single pane of glass.

Network- and power-related alerts will be provided through the virtualization management application, and Eaton 93E will take the resiliency of the system to the next level, by bridging the electrical and IT infrastructures.



IPM provides several options to ensure business continuity, e.g.:

- Load shedding: non-critical services can be suspended or gracefully shut down. By reducing the load to 50%, the UPS will have 150% more runtime on batteries
- Migration of critical applications to an unaffected host





Efficient

Eaton minimizes operational expenditure with higher efficiency, which also enhances higher sustainability, through reduced carbon emissions.

Double conversion EFFICIENCY up to

96.1%

Double conversion

Double conversion provides the highest level of protection available by isolating the output power form all input anomalies. This allows the 93E to consistently provide clean and conditioned power to the load. A high double conversion efficiency of up 96.1% translates to reduced power loss which leads to higher energy conservation.

High-efficiency mode

With a transformer-free design and sophisticated sensing and control circuitry, Eaton 93E is capable of achieving up to a **99.3%** high-efficiency mode rating, which makes it one of the most energy-efficient UPSs in its class - and it still provides maximum load protection. Unlike most high-efficiency UPSs, Eaton 93E provides surge suppression for the load and switches back to double-conversion operation in less than 4ms.

Savings in your pocket

Eaton designs its UPSs with a low total cost of ownership in mind. With Eaton's **TCO calculator**, the value of an Eaton UPS can be quantified and the total cost compared to that of different UPSs. Check your potential savings with either the web version and the mobile application.

Find out more at
eaton.com/TCO

Download on the App Store

GET IT ON Google Play



Compatible

UPSs are usually complimented with generators for the continuous power supply of critical equipment. The compatibility of the electrical characteristics between them guarantees their harmony.

Active power factor correction (PFC) provides 0.99 input power factor and <5% ITHD, thus eliminating interference with other critical equipment in the same network and enhancing compatibility with generators. Eaton 93E is optimized for protecting modern 0.9 p.f. rated IT equipment without the need to oversize.

Compact

To overcome the rising cost of storage and to exploit limited spaces, the footprint of a UPS plays an important role in maximizing the potential of every inch.

Small footprint occupies minimal floor space:

- Up to 30% smaller than similar competitive solutions
- 600 mm wide UPS cabinet enables seamless "in-row" integration with IT racks
- An option for internal batteries in the 15-40 kVA models



Technical specifications

General		
UPS output power rating (0.9 p.f.)	15 20 30 40 60 80 100 120 160 200 kVA	
	13.5 18 27 36 54 72 90 108 144 180 kW	
Distributed paralleling with Hot Sync technology	Up to 4 units	
Topology	Transformer-free IGBT with PWM, double conversion	
Efficiency in double conversion mode	Up to 96.1%	
Efficiency in High-Efficiency mode (HE)	Up to 99.3%	
UPS dimensions (width X depth X height)	500 x 710 x 960	15/20 kVA (with internal batteries)
	500 x 710 x 1230	30 kVA (with internal batteries)
	500 x 710 x 1500	40 kVA (with internal batteries)
	600 x 800 x 1800	60-120 kVA
	600 x 830 x 1880	160-200 kVA
UPS degree of protection	IP 20	
Weight without internal batteries	72 kg	15/20 kVA
	88 kg	30 kVA
	120 kg	40 kVA
	202 kg	60 kVA
	245 kg	80 kVA
	283 kg	100 kVA
	311 kg	120 kVA
	427 kg	160/200 kVA
Weight with internal batteries	272 kg	15/20 kVA
	376 kg	30 kVA
	490 kg	40 kVA
Audible noise at 1 m typical	15-20 kVA	≤55 dBA
	30-40 kVA	≤62 dBA
	60-80 kVA	≤65 dBA
	100-120 kVA	≤62 dB
	160-200 kVA	≤70 dBA
Operating altitude	1000 m without derating (max 2000 m)	

Input		
Input wiring	3ph + neutral	
Nominal voltage and frequency rating	380/400/415 V 50/60 Hz	
Input voltage tolerance, with 400 V nominal voltage	-15 / +20 %	
Input frequency tolerance	40-72 Hz	
Input frequency	50/60 Hz	
Input Power Factor	0.99	
Input ITHD	<5% (15-80 kVA)	<3% (100-200 kVA)
Power walk-in	Yes	
Internal backfeed Protection	Yes, for rectifier and bypass lines	

Output	
Output wiring	3ph + neutral
Nominal voltage and frequency rating	220/380, 230/400, 240/415 V 380/400/415 V 50/60 Hz
Output UTHD	<2 % (linear load)
Output power factor	0.9
Permitted load power factor	0.7 lag to 0.9 lead
Overload capacity on inverter	102 - 125% rated load 10 minutes 126 - 150% rated load 1 minute >150% rated load 500 ms
Overload capacity on bypass	Continuous <115% load, 20 ms 1000% peak current. **Note:** External bypass fuses may limit the overload capability.

Battery		
Battery type	VRLA	
Charging method	ABM technology or Float	
Battery nominal voltage (lead-acid)	384 V (32 x 12 V, 192 cells)	with internal (for 15-40 kVA) and external batteries
	432 V (36 x 12 V, 216 cells)	with external batteries
	456 V (38 x 12 V, 228 cells)	with external batteries
	480 V (40 x 12 V, 240 cells)	with external batteries

Charging current / Model	15	20	30	40	60	80	100	120	160	200	kVA
Default A	3.5	3.5	5.2	7	10.4	15.6	20	20	40	40	
Max* A	5.3	5.3	8	10.6	16	24	40	40	80	80	

*Maybe limited by the maximum UPS input current rating and the load level

Accessories
External battery cabinets, Internal manual bypass switch up to 120 kVA, MiniSlot connectivity - Web/SNMP, ModBus/JBus, Relay (15-200 kVA), Gigabit Network card (100-200 kVA)

Communication	
Display	Graphical LCD with blue backlight
LEDs	(4) LEDs for notice and alarm
Audible alarms	Yes
Software	Eaton Intelligent Power Manager
Communication ports	(1) RS-232, (1) USB, (1) EPO, (3) Building alarm (Signal inputs)
Communication slots	(2) Mini-slot communication bays

Compliance with Standards	
Safety (CB certified)	EC 62040-1
EMC	IEC 62040-2, EMC Category C3
Performance	IEC 62040-3
RoHS	EU directive 2011/65/EU
WEEE	EU directive 2012/19/EU

Due to continuous product improvement programmes, specifications are subject to change without notice.

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