

Brochure Eaton 93E UPS 80-200 kVA

# Eaton 93E UPS

Simply effective power management  
for every IT environment



**EATON**

*Powering Business Worldwide*

# The Eaton 93E: simply effective

The Eaton 93E UPS delivers **simply effective** power protection for ever-expanding loads in today's space-constrained data centres. Facilitating a lower total cost of ownership (TCO) through a combination of energy-efficiency, high reliability and a compact footprint the 93E is an ideal solution for small - to medium - sized data centres and other applications desiring highly reliable power protection.

## Energy-efficient design

With a transformer-free design and sophisticated sensing and control circuitry the 93E is capable of achieving up to a 98.5% 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 4ms

High system efficiency reduces utility cost, extends battery run times and ensures cooler operating conditions.

## Real compatibility

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. The 93E is optimised for protecting modern 0.9 p.f. rated IT equipment without the need to oversize.



## Application

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

## True reliability

Patented Eaton Hot Sync technology makes it possible to parallel up to four UPSs to increase availability or add capacity.

The technology enables load sharing without any communication line, thus eliminating single point of failure.

## Compact & serviceable design

Small footprint occupies minimal floor space:

- Up to 60% smaller than similar competitive solutions
- 600mm wide UPS cabinet enables seamless "in-row" integration with IT racks

The 93E is easily and quickly serviced to provide the highest level of availability with Mean Time to Repair (MTTR) <30 minutes.

With its Easy Capacity Test feature the 93E can test its entire power train under full load stress without the requirement of an external load.

## User Interface

Large LCD graphically displays UPS status and offers easy access to measurements, controls and settings.



## Connectivity

With Eaton® Mini-Slot connectivity cards, you can monitor, manage and remotely shutdown UPSs across the network.

- Network Card-MS Web/SNMP Card allows you to connect your 93E UPS directly to the Ethernet network and the Internet
- Network and MODBUS Card-MS provides remote monitoring of a UPS system through a Building Management System (BMS) or Industrial Automation System (IAS)
- Relay Card-MS provides the essential dry-contact interface between your Eaton UPS and any relay-connected computer as well as a variety of industrial applications



## Software

Eaton's Intelligent Power® Software Suite incorporates two important applications for ensuring quality power and uptime: monitoring and management of power devices across the network combined with automatic, graceful shutdown when faced with an extended power outage.

- Monitor and manage multiple power devices across your network
- Extend the uptime of dual-powered servers with redundancy capabilities
- Enable server shutdown and live migration events



# Eaton's heritage in industry-leading UPS design and production

For more than 50 years, Eaton has been safeguarding the critical systems of businesses across the globe. Whether protecting a single desktop or the largest data centre, Eaton solutions provide clean, uninterrupted power to keep mission-critical applications working.

We offer a comprehensive range of environmentally-sensitive, efficient, reliable UPSs, surge protective devices, power distribution units (PDUs), remote monitoring, meters, software, connectivity, enclosures, airflow management and professional services.

We work with IT and facilities managers to effectively manage power in virtually every business segment, including data centres, retail outlets, health-care organisations, governmental agencies, manufacturing firms, broadcasting companies, financial institutions, and a wide variety of other applications.

Our solutions provide the power to make a difference, helping you achieve your business goals while maintaining environmentally sustainable enterprises.



## A world-class support structure

As an industry-leading UPS provider, at Eaton we're constantly working to ensure that our service standards meet your needs precisely. Our trained service team is on hand 24/7 to minimise risks by detecting and addressing problems before they happen. In Europe, Middle East and Africa region Eaton's service network

consists of more than 120 field engineers who receive comprehensive, up-to-date training on the latest products and technologies.

We confidently guarantee the experience and know-how of our servicing resources to provide a dedicated support package which helps to ensure your equipment is running safely, reliably, sustainably and energy-efficiently at all times.

# Eaton 93E UPS Technical Specifications

General	
UPS output power rating (0.9 p.f.)	80 100 120 160 200 kVA 72 90 108 144 180 kW
Efficiency in double conversion mode (full load)	93.5%
Efficiency in double conversion mode (half load)	93.3%
Efficiency in High-Efficiency mode (HE)	98.5%
Distributed paralleling with Hot Sync technology	3 + 1
Inverter/rectifier topology	Transformer-free IGBT with PWM
Audible noise	≤65 dB (80-120kVA) and ≤70dB (160-200kVA) at a 1m, 75 % load
Altitude (max)	1000 m without derating (max 2000 m)

Input	
Input wiring	3 ph + neutral
Nominal voltage rating (configurable)	220/380, 230/400, 240/415 V 50/60 Hz
Input voltage range	+20% / -15% at 100% load +20% / -50% at 50% load
Input frequency range	42-70 Hz
Input Power Factor	0.99
Input ITHD	< 5%
Soft start capability	Yes
Internal backfeed protection	Yes

Battery	
Battery type	VRLA
Charging method	ABM technology or Float
Battery nominal voltage (lead-acid)	432 V (36 x 12 V, 216 cells)
	456 V (38 x 12 V, 228 cells)
	480 V (40 x 12 V, 240 cells)
Charging current / Model	80 100 120 160 200
Default A	20 20 20 20 20
Max* A	40 40 40 80 80

\*May be limited by maximum UPS input current rating

Output	
Output wiring	3 ph + neutral
Nominal voltage rating (configurable)	220/380, 230/400 (default), 240/415 V 50/60 Hz
Output UTHD	<2% (100% linear load)
Output power factor	0.9
Permitted load power factor	0.7 lagging – 0.9 leading
Overload on inverter	10 min 102-125% load
	1 min 126-150% load
	150 ms >151% load
Overload when bypass available	Continuous <115% load, 20 ms 1000% peak current. <b>Note!</b> External bypass fuses may limit the overload capability.

Accessories	
External battery cabinets, internal manual bypass switch up to 120 kVA, external maintenance bypass switch, MiniSlot connectivity (Web/SNMP, ModBus/Jbus, Relay)	

Communications	
MiniSlot	2 communication bays
Serial ports	USB, RS232
Relay inputs/outputs	Two Signal inputs

Compliance with standards	
Safety (CB certified)	IEC 62040-1
EMC	IEC 62040-2, EMC Category C3
Performance	IEC 62040-3

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