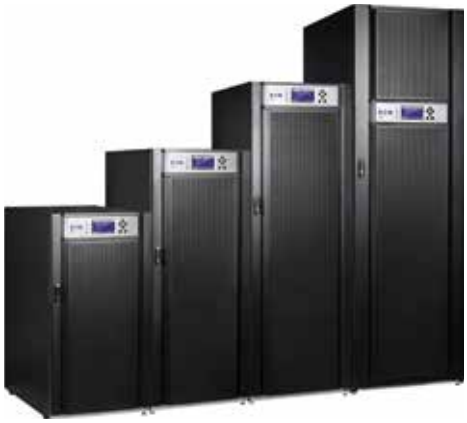
Eaton 93E UPS

15 - 400 kVA



Applications:

- Data centre
- Telecom
- Manufacturing
- Healthcare

Double conversion UPS

Double conversion provides the highest level of protection available by isolating the output power from all input anomalies.

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.

The Eaton® 93E UPS delivers superior 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.

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.

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:

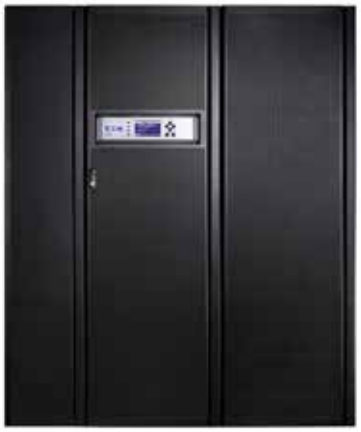
- Up to 30% smaller than similar competitive solutions
- Allows dedication of more floor space to revenue producing equipment

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.

Flexible installation options

Eaton's range of accessories for the 93E provides flexible installation options that expedite deployment and save valuable space. The aesthetically designed accessories enable coordinated solutions that enhance both safety and reliability whilst reducing installation time and total cost.

The accessories family includes System Parallel Modules, External Maintenance Bypass Switches, External Battery Cabinets, External Battery Circuit Breakers, Top cable Entry Cabinets, Rear Chimneys, IP21 kit (80-200kVA) & Internal Transformer Options (80-120kVA).



93E 300/400 kVA

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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 an RS232 port and the dry-contact interface between your Eaton UPS and any relay-connected computer.
- Industrial Relay Card-MS provides a hard-wired dry-contact relay interface for 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.

To learn more, please visit www.eaton.com/intelligentpower

TECHNICAL SPECIFICATIONS[1]

Power	
Ratings	15kVA/13.5kW, 20kVA/18kW, 30kVA/27kW, 40kVA/36kW, 60kVA/54kW, 80kVA/72kW, 100kVA/90kW, 120kVA/108kW, 160kVA/144kW, 200kVA/180kW, 300kVA/270kW, 400kVA/360kW
Topology	Double-conversion online UPS
Electrical Input	400/230V, 4 wire (380/415V selectable)
Input Voltage Range	-15%, +20% from nominal (400V) 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	400/230, 4 wire (380/415V selectable)
Output Voltage Regulation	±1% Static; ±5% dynamic at 100% resistive load change, <20 ms response time
Battery	
Battery	192/198/204/210/216 Cells (Selectable for 15-80kVA) 216/222/228/234/240 Cells (Selectable for 100-40kVA)
Charging Method	ABM Cyclic Charging
General	
Efficiency	Up to 98% High-efficiency mode (15-80kVA) Up to 98.5% High-efficiency mode (100-400kVA) Up to 94% Double-conversion mode
UPS Bypass	Automatic on overload or UPS failure
Dimensions W x D x H	500 x 710 x960 (mm) 15-20kVA (with internal battery) 500 x 710 x 1230 (mm) 30kVA (with internal battery) 500 x 710 x 1500 (mm) 40kVA (with internal battery) 600 x 800 x 1876 (mm) 60-200kVA 1600 x 820 x 1880 (mm) 300/400kVA
Cabinet rating	IP20 with standard washable dust filters
Weights without internal battery	15/20kVA -72 kg, 30kVA -91kg, 40kVA -120kg, 60kVA -202kg, 80kVA -245kg, 100kVA - 283kg, 120kVA - 311kg, 160/200kVA - 457kg, 300kVA - 860kg, 400kVA - 970kg
Weights with internal battery	15/20kVA -272kg, 30kVA -376kg, 40kVA -490kg
Overload	150% for 1 minute, 125% for 10 minutes >150% for 150ms

Communications	
Display	Graphical LCD with blue backlight
LEDs	(4) LEDs for notice and alarm
Audible Alarms	Yes
Communication Ports	(1) RS-232, (1) USB, (1) EPO
Communication Slot	(2) Mini-slot communication bays
Environmental	
Operating Temperature	0°C to +40°C Batteries recommended max. +25°C
Storage Temperature	-25°C to +55°C without batteries +15°C to +25°C with batteries
Relative Humidity	5-95%, non-condensing
Audible Noise	15-20kVA ≤55 dBA at 1m typical 30-40kVA ≤62 dBA at 1m typical 60-120kVA ≤65 dBA at 1m typical 160-200kVA ≤70 dBA at 1m typical 300-400kVA ≤73 dBA at 1m typical
Altitude	<1000m at +40°C
Certifications	
EMI Standards	EN55022/EN55024
EMC Compliance	IEC 62040-2
Quality	ISO 9001: 2000 and ISO 14001:1996
Communication accessories	
Network-MS	Network Card-MS
Modbus-MS	Network and Modbus Card-MS
Relay-MS	Relay Card-MS
116750224-001	Environmental Monitor Probe (EMP) kit (need to plug into Network Card-MS or Modbus Card-MS to work)

Top Cable Entry (60 – 200 kVA, standard on 300 – 400 kVA)

Dual input kit (15 – 80 kVA), IP21 hood (15 - 200 kVA)

Battery Cabinets & Battery Circuit Breakers (60 – 200 kVA)

System Parallel Modules (60 – 200 kVA)

Maintenance Bypass Switches (100 – 400 kVA, standard on 15 – 80 kVA)

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

Powering Business Worldwide

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