

Eaton 93E UPS

15 – 400 kVA



93E 15 - 200 kVA

Applications: • Data centres • 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.

Real compatibility

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.

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 (15-200kVA) & Internal Transformer Options (15-120kVA).



93E 300/400 kVA



Powering Business Worldwide

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 SPECIFICATION¹

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 | ±1% Static; ±5% dynamic at 100% resistive Regulation load change, <20 ms response time |
| Battery | |
| Battery | 192 to 240 Cells (Continual selectable for 15-80kVA) 216/222/228/234/240 Cells (Selectable for 100-400kVA) |
| 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 x 960 (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 | Web/SNMP Card |
| Modbus-MS | Web/SNMP and Modbus Card |
| Relay-MS | Relay (Dry Contact) Card -DB9 Connection |
| Industrial Relay | Relay (Dry Contact) Card -Terminal Connection |
| 116750224-001 | Environmental Monitor Probe (EMP) kit (need to plug into Web/SNMP Card or Web/SNMP and Modbus Card to work |
| System accessories | |
| Battery Cabinets & Battery Circuit Breakers (60-200kVA) | |
| Maintenance Bypass Switches (MBS) (100-200kVA, standard on 15-80kVA) | |
| Top Cable Entry (60-200kVA, standard on 300-400kVA) | |
| System Parallel Modules (60-200kVA) | |
| Dual input kit (15-80kVA) | |
| IP21 hood (15-200kVA) | |
| Rear Chimney (60-200kVA) | |

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

Headquarters

Eaton's Electrical Sector Americas Region
1000 Eaton Boulevard Cleveland, Ohio 44122, USA

South Asia Office

Eaton's Electrical Sector Eaton Power Quality Pvt. Ltd.
6th Floor, Tower-B,
Plot No. 8, Sector - 127, Noida - 201301
Tel: +91 - 0120 - 3855300
Sales and Service
Toll Free Hotline.: 1800 200 7887
E-mail: EatonPowerQualityIndia@eaton.com

Offices Across India

Mumbai
EL Floor, VITS Luxury Business Hotel,
Andheri Kurla Road, Andheri (East),
Mumbai - 400 059
Tel : +91-22-4005 3817
Fax: +91-22-4005 3810

Chennai
No. 22, Chamier's Road,
Block "D" Ashika Chambers,
Teynampet, Chennai - 600 018
Tel : +91 44 2432 0249-50
Fax: +91 44 2432 0249

Bangalore
Unit No. 501, 4th Floor,
Prestige Atrium, Central Street,
Bangalore - 560 001
Tel : +91 80 4901 2200
Fax: +91 80 4901 2239

Ahmedabad: +91 932 703 1597
Chandigarh: +91 172 501 1578
Coimbatore: +91 934 541 9578
Cochin: +91 934 982 1582
Gurgaon: +91 124 410 0047
+91 124 436 6315
Hyderabad: +91 40 4018 9601
Kolkata: +91 33 4004 0968
Pune: +91 20 3061 1886

Sales and Service Operations

Sri Lanka:
+94 11 2871 000
+94 11 7520 000
+94 11 7520 031

Nepal:
+97 714429777
+97 714429888
+97 714423376

Bangladesh:
+8802 7170368, 7162568, 7162619
+8802 9347918, 9330765, 9348220