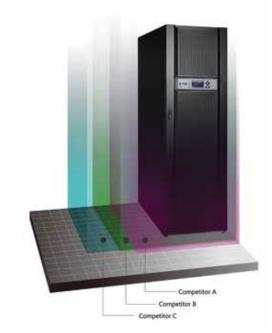# Eaton 93E MK2 UPS
10 - 40 kVA

93E MK2 10 - 40 kVA

Applications:
- Data Center
- Manufacturing
- Commercial Buildings
- Telecom
- Healthcare

The Eaton® 93E MK2 UPS delivers superior power protection with the highest power and energy density in the industry.

The 93E MK2 range provide the lowest total cost of ownership in its class by combining extremely compact footprint, tremendous flexibility and unprecedented ease of installation. It also provides the suite of advance technologies of Eaton's UPS to achieve maximum availability for the critical loads.

The 93E MK2 is ideal for applications where long back up time is needed and space is a constrain.

82% more energy   **65%** savings on installation   **32%** less footprint   **32%** savings on real state

Minimizing Total Cost of Ownership

The 93E MK2 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 MK2 offers a unique blend of energy, space and installation savings.

Extremely compact footprint

- Internal battery design with extended runtime design to save footprint, no extra battery cabinet needed.
- Pre-installed batteries to simplify setup and lower costs
- Internal maintenance bypass switch

Ease of installation

- Pre-installed battery modules to minimize installation costs and improve reliability
- Internal maintenance bypass switch (MBS) as standard to avoid additional installation cost

Flexible and scalable runtime

- Delivers up to almost 30 minutes of backup time for 40kVA in a single frame
- Increase back up time by adding more battery modules
- Provides greater runtime at lower costs

Maximum availability

Eaton 93E MK2 UPS has been designed to maximize availability at both the facility and IT layer. The 93E MK2 design and Eaton's patented technologies provide high level of resiliency while Eaton's Intelligent Power Software (IPM) allows enhanced monitoring and load shedding capabilities.

True reliability

- Patented Eaton Hot Sync® paralleling technology eliminating single point of failure
- Active power factor correction (PFC) provides 0.99 input power factor and <5% ITHD
- Optimized for protecting modern 0.9 p.f. rated IT equipment
- Factory system tested solution for enhanced reliability

Minimize downtime

- Slide out battery trays for easy replacement
- Washable dust filters
- Easy Capacity Test allow the 93E MK2 to test its entire Power Train without the need of an external load bank.

Cloud and Virtualization Ready

- Utilizing Eaton's Intelligent Power Manager 93E MK2 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.
- Simple load-shedding policy-based for extending back-up time in case of undesired events. A 50% drop in load equates to up to 250% more battery run-time.

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 MK2 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/or dry-contact interface between your Eaton UPS and any relay connected interface.

Eaton 93E MK2 UPS Technical Specifications

Power

Ratings	15kVA/13.5kW 20kVA/18kW 30kVA/27kW 40kVA/36kW
Topology	Double-conversion online UPS
Operating frequency	50/60 Hz (40 to 72 Hz)
Input power factor	>0.99 typical
Input current distortion	≤5% THD

Electrical input

Nominal input voltage	400/230V, 4 wire (380/415V selectable)
Input voltage range	-15%, +20% from nominal (400V) at 100% load without depleting battery

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	432V (216 Cells * 6 strings(max), Default with internal batteries)
Charging method	ABM Cyclic Charging

General

Efficiency	>98% High-efficiency mode >94% Double-conversion mode
Overload	150% for 1 minute, 125% for 10 minutes, >150% for 150ms
UPS bypass	Automatic on overload or UPS failure
Parallel technology	Hot Sync® Technology
Dimensions W x D x H (mm)	600 x 800 x 1876
Cabinet rating	IP20 with standard washable dust filters
Weights with 6 strings internal battery	15kVA 770kg 20kVA 770kg 30kVA 780kg 40kVA 790kg

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 slots	(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	10kVA≤55 dB(A) at 1m typical 15kVA≤55 dB(A) at 1m typical 20kVA≤55 dB(A) at 1m typical 30kVA≤62 dB(A) at 1m typical 40kVA≤62 dB(A) 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
EMP	Environmental Monitor Probe (EMP) kit (need to plug into Web/SNMP Card or Web/SNMP and Modbus Card to work

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

Scalable Runtime *

Power Rating	Part Number	Backup Time (min)
15kVA	93E15 MK2-MBS	0
	93E15 MK2-MBS14	14
	93E15 MK2-MBS22	22
	93E15 MK2-MBS31	31
	93E15 MK2-MBS41	41
	93E15 MK2-MBS52	52
20kVA	93E20 MK2-MBS	0
	93E20 MK2-MBS10	10
	93E20 MK2-MBS15	15
	93E20 MK2-MBS22	22
	93E20 MK2-MBS30	30
	93E20 MK2-MBS36	36
30kVA	93E30 MK2-MBS	0
	93E30 MK2-MBS10	10
	93E30 MK2-MBS13	13
	93E30 MK2-MBS17	17
	93E30 MK2-MBS22	22
40kVA	93E40 MK2-MBS	0
	93E40 MK2-MBS10	10
	93E40 MK2-MBS12	12
	93E40 MK2-MBS15	15

* Approximate runtime in minutes based on rated kVA at 0.8 pf
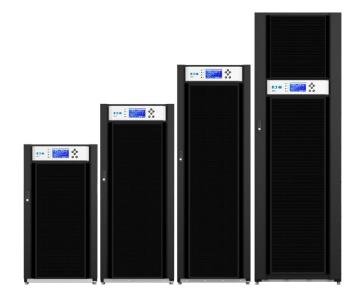
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