

Eaton 93PM UPS 30-50 kW

# Eaton 93PM UPS

Class-leading energy efficiency  
with minimal operating costs



**EATON**

*Powering Business Worldwide*

# The Eaton 93PM all-in-one solution

Introducing the Eaton 93PM UPS, helping you to combat the costs of energy and the ever-increasing power demands of IT infrastructure. Featuring industry-leading operating efficiency of 96.7% and world-class intelligent software solutions, the 93PM is the surest way to secure the continuity of your mission-critical applications. All this compactly in 0.5 m<sup>2</sup>.

## Securing the continuity of your mission-critical applications

### Your first step towards maximised power usage effectiveness and minimised total costs of ownership (TCO)

- 96.7% efficiency in double conversion
- > 99% efficiency with Energy Saver System (ESS)

### Maximal power and energy density in a minimal 0.5 m<sup>2</sup> footprint

- Standard 10-20 minutes full load runtime with internal batteries

### World class intelligent software solutions

- Intelligent Power Manager® allows you to monitor and manage your UPS system as an integral part of power infrastructure
- Plugs into leading virtualisation management systems like VMware vCenter, Microsoft SCVMM and Citrix XenCenter



The Eaton 93PM UPS occupies only 0.5 m<sup>2</sup> floorspace

### Intuitive user interface

- Display shows power quality, energy consumption and efficiency trends
- Data logging feature allows easy measurement, monitoring and managing

The Eaton 93PM UPS is an all-in-one solution that minimises your total costs of ownership. Our ethical standards give you the assurance that we deliver exactly what we promise in terms of performance, and our partnerships help you to achieve more efficient data centres.



ALL REAL POWER  
WITH EATON 93PM UPS  
**kW = kVA**

# Features and benefits

## The Eaton 93PM UPS provides 96.7% energy efficiency in double conversion

On-line double conversion topology ensures the UPS output is not affected by any abnormalities in the utility power and keeps critical load equipment protected against all common power problems.

With Eaton 93PM UPS, modern multi-level converter technology ensures that in double conversion no energy is wasted and the UPS operating efficiency is top-of-market 96.7% resulting in significant savings in operational costs.

## Energy Saver System delivers superior > 99% efficiency

Even small increases in UPS efficiency can quickly translate into thousands of dollars, realised in more real power and lower cooling costs. Energy Saver System enables > 99% efficiency across the typical UPS operating range.

In ESS, the load is powered securely through the static bypass line with double conversion available on-demand with typical 2 ms transition time in the event of any abnormality on supply source. When operating in ESS mode, the load is protected with inherent surge suppression.

When utility power quality is high, ESS can reduce UPS power losses by 75% as it runs on double conversion only when needed.

## More power in a small footprint

The Eaton 93PM UPS is a high power density solution. In a footprint of just 0.5 m<sup>2</sup>, it can provide full rated power and standard backup time with internal batteries.

## Advanced battery management

Eaton's advanced charging algorithm prolongs battery service life significantly compared to traditional charging methods. Automatic battery tests ensure any defects on batteries are detected and any failed blocks replaced on time. Battery health data is available for viewing easily through the display. By being able to monitor the condition of batteries and view a history log of test data, system maintenance can be better planned and scheduled ahead.

## Accessories and options

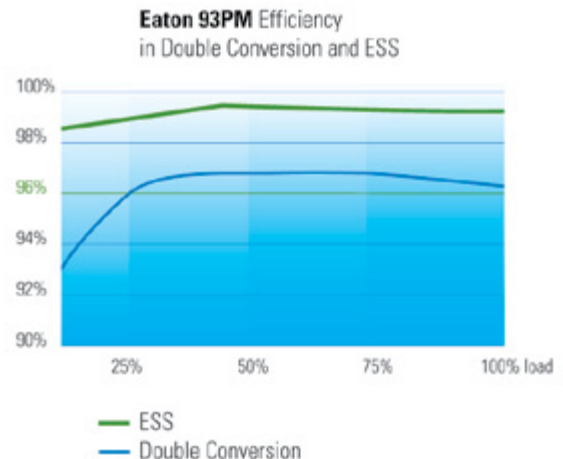
**A variety of options and accessories are available to further tailor the UPS solution to meet your specific needs:**

### UPS options

- Variety of connectivity card options
- Environmental Monitoring Probe

### Accessories

- Extended runtimes with line-and-match external battery cabinets
- External maintenance bypass (wall mountable)
- System Parallel Modules
- Variety of other external switchgear and power distribution solutions



## PREMIER POWER QUALITY FOR YOUR

- Virtualised data centres
- Mission-critical applications
- IT infrastructure

## Software and connectivity

### Intelligent Power Software (IPP/IPM)

The Eaton 93PM UPS is designed for the most advanced IT environments, and it comes with interfaces for Web and SNMP as standard.

Our Intelligent Power Manager<sup>®</sup> software is a productivity tool for administrators of several power devices and shutdown applications.

Intelligent Power Manager<sup>®</sup> plugs into leading virtualisation management systems like VMware vCenter, Microsoft Systems Center and Citrix XenCenter, consolidating power information to the same tool that is used to monitor and manage physical and virtual servers, storage and networks. In case of power failure, it can also trigger actions like live migration of virtual machines, controlled shutdown or disaster recovery.



# Inside the Eaton 93PM UPS

## Communications and connectivity

Three MiniSlots for additional connectivity hardware

Built-in device and host USB

Five alarm inputs and dedicated EPO

Alarm relay output  
(more available as option)

## Battery start

## Input switchgear

## System static bypass switch

## Integrated maintenance bypass switch (MBS)



## Uninterruptible power module (UPM)

## Battery breaker

## Internal batteries

## Input, output bypass and battery terminals

## 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, healthcare 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 are 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.

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.

**To find out more, please visit**

**[www.eaton.com/93PM](http://www.eaton.com/93PM)**



*“ Committed to creating and maintaining powerful customer relationships based on a foundation of excellence. ”*

# Eaton 93PM UPS Technical Specifications

General	
UPS output power rating (1.0 p.f.)	30, 40, 50 kW
Efficiency in double conversion mode	96.7%
Efficiency in Energy Saver System (ESS)	99%
Field upgradeable	Yes, up to 50 kW
Inverter/rectifier topology	Transformer-free IGBT with PWM
Audible noise	55 dBA at 75% load 60 dBA at 100% load
Altitude (max)	1000 m without derating (max 2000 m)

Input	
Input wiring	3 ph + N + PE
Nominal voltage rating (configurable)	220/380, 230/400, 240/415 V 50/60 Hz
Input voltage range	<b>High</b> +20% rectifier input, 10% bypass input <b>Low</b> -15% at 100% load, -40% at 50% load without battery discharge
Input frequency range	40-72 Hz
Input Power Factor	0,99
Input ITHD	< 3%
Soft start capability	Yes
Internal backfeed protection	Yes

Battery	
Battery type	VRLA
Charging method	ABM technology or Float
Temperature compensation	Optional
Battery nominal voltage (lead-acid)	432 V (36 x 12 V, 216 cells)
Charging current maximum	22 A
Battery start capability	Yes

Standard UPS (with internal batteries)				
Description	Rating	Full load runtime	Dimensions (W x D x H)	Weight (with battery)
93PM-30(50)-MBS-6x9Ah	30 kW	20 min	560 x 914 x 1876 mm	890 kg
93PM-40(50)-MBS-6x9Ah	40 kW	15 min	560 x 914 x 1876 mm	890 kg
93PM-50(50)-MBS-6x9Ah	50 kW	10 min	560 x 914 x 1876 mm	890 kg

Output	
Output wiring	3 ph + N + PE
Nominal voltage rating (configurable)	220/380, 230/400, 240/415 V 50/60 Hz
Output UTHD	< 1% (100% linear load) < 5% (reference non-linear load)
Output power factor	1.0
Permitted load power factor	0.8 lagging – 0.8 leading
Overload on inverter	10 min 102-110% 60 sec 111-125% 10 sec 126-150% 300 ms > 150%. On battery mode 300 ms > 126%
Overload when bypass available	Continuous < 125%, 10 ms 1000%

**Accessories**

External battery cabinets with long-life batteries, external maintenance bypass switch, integrated manual bypass, MiniSlot connectivity (Web/SNMP, ModBus/Jbus, Relay)

Communications	
MiniSlot	3 communication bays
Serial ports	Built-in host and device USB
Relay inputs/outputs	5 relay inputs and dedicated EPO 1 relay output

Compliance with standards	
Safety (CB certified)	IEC 62040-1
EMC	IEC 62040-2, EMC Category C2
Performance	IEC 62040-3

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