

Eaton 93PR 500-600kW UPS

Eaton 93PR UPS

Complete modular data center solution

Lithium-ion Compatible



Lithium

Energy
Aware



Modular
60kW

Efficiency
97%



EATON

Powering Business Worldwide

93PR Features and Benefits

The Eaton 93PR UPS combines unprecedented efficiency and reliability with an eye-catching design. A space-saving, scalable and flexible device that's as easy to deploy as it is to manage, it's the perfect three-phase white or grey space solution for today's data center.



Extra Low TCO (Total Cost of Ownership)

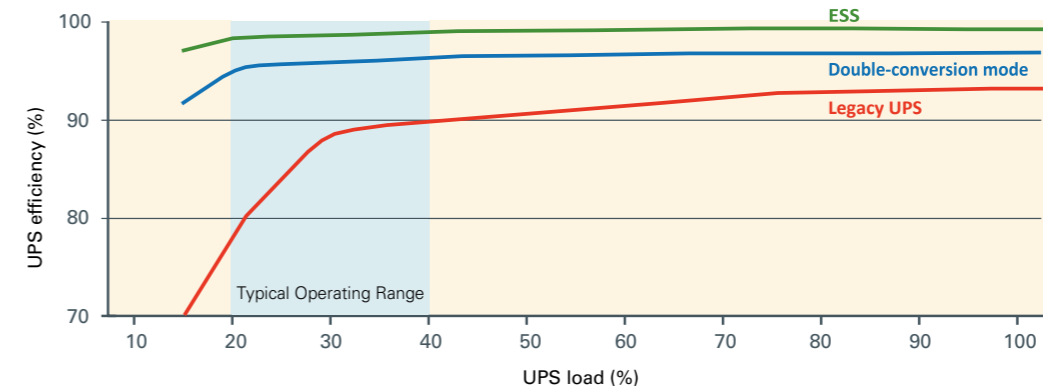
Conserves valuable data center floor space with its compact footprint and internal redundancy design.

Reduces cost and unexpected future growth risks with its vertical scalability, enabling you to scale as you grow.

Reduces power and cooling OPEX through industry-leading energy-efficiency.

- **99% efficiency with Energy Saver System (ESS)**
- Up to **97%** efficiency in double-conversion mode

The 93PR's vertical scalability, internal redundancy and compact footprint design



Your UPS cost will be recovered in 3 years' time thanks to the significant energy savings in Eaton ESS/ double conversion efficiency.

Calculate your 93PR savings with ESS at Eaton.com/ESS.



The functional core of the 93PR UPS



- A Cable entry**
Top and bottom cable entry available
- B Communications and connectivity**
 - Built-in device and host USB
 - Five alarm inputs and dedicated EPO
 - Alarm relay output
 - Four connectivity/ communication slots
- C 60kW HOTSWAPPABLE power modules (1~10)**
- D Hot replaceable STSW module**
600kW with fast protection bypass fuse and back-feed protection
- E DC start controls**
Available in each power module
- F Input / output isolations**
Input/ Output/ Bypass/ MBS isolation switches
- G Redundancy and speed controllable fans**
- H 7"Color display**



Eaton 93PR UPS



- Up to 50% footprint saving
- Flexible ventilation options
- On-line replaceable UPM & STSW & Communication module, MTTR as low as 5 mins
- Robust components using oil-filled capacitors & IGBT modules

- Perfect integration with Lithium battery, compatible with multiple Lithium-ion BMS
- High efficiency UPM module, efficiency up to 97%
- Complete power isolation options (Input/ Output/ Bypass/ MBS)



Enhanced efficiency and reliability with SIC Hybrid IGBT Module



Long life oil-filled capacitor

Easy management



LED light bars

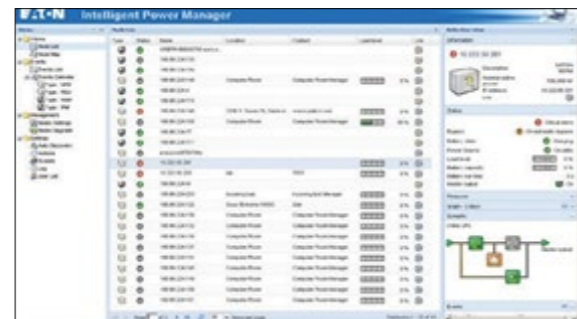
Provides easier access to detailed status information through its large, user-friendly LCD touchscreen interface

With the 93PR's graphical LCD interface you can track stats on energy savings, battery time, outage tracking, load profiling and much more.

The green/yellow/red LED light-bars make system status visible from a distance in data centers.

Integrates with the leading virtual platforms through its full suite of power management and connectivity software

Designed for the most advanced IT environments, the 93PR supports optional communication cards that allow remote access via the HTTP(S), SNMP, MODBUS TCP/IP, Modbus RTU and BACnet IP protocols. In addition, Eaton's Power Xpert® software and Intelligent Power® Software Suite give you all the tools you need to manage power devices in your physical or virtual environment. Learn more at Eaton.com/intelligentpower.



Red light bars showing alerts on system. Yellow light bars indicate battery and bypass status.

Intelligent Power Manager® (IPM) is a world class power management software platform. It seamlessly monitors power and environmental conditions while providing business continuity for workloads using VMware®, Citrix® and Microsoft® platforms. IPM also optimizes power and environmental conditions for data centers using OpenStack® or HPE OneView®.

Connectivity options:

- Power Xpert Gateway Minislot UPS Card
- Industrial Relay Card - MS
- Industrial Gateway Card
- Gigabit Network Card (Network-M2)
- SNMP



Connectivity Cards

Lithium-ion battery

Power on demand

Eaton's lithium-ion battery systems provide a reliable and flexible solution that ensures 24/7 system uptime while delivering significant total-cost-of-ownership (TCO) savings. Capable of providing mega-watts of power in a small footprint, this battery solution comprises of lightweight battery strings designed to seamlessly connect to a Power Xpert™ 9395 or 93PM UPS.

Why lithium?

Lithium-ion chemistry demonstrates superior characteristics in UPS applications, this results in high energy density, long life, flexible installation, improved cycle life and a lower TCO.

Backup battery runtimes

Contact Eaton for backup times and configurations. A wide range of runtimes from 3 minutes to an hour + are available.

Management and monitoring system

The lithium-ion battery integrates a powerful battery management system (BMS), providing cell protection (temp, current, over/under voltage), cell balancing, state of charge and health and alarms/ reports.

Protection: The BMS processes critical parameters such as voltage levels, temperature, and current at the module and solution levels. Abnormal conditions (warnings and alarms) are quickly detected and, if necessary, the BMS will protect the system from damage by disconnecting the affected battery.

Performance optimization: The BMS incorporates cell and module balancing controls. This function optimizes the voltages of each module to maximize performance and increase service life.

Benefits of lithium-ion

Save money	10 year performance warranty 15 year design life	\$
Save space	up to 8x cycle 40% smaller 60% lighter	L-ion
Reduce risk	24/7 BMS monitoring	Computer monitor icon

For more information on Lithium-ion battery, visit Eaton.com/Lithium

EnergyAware upgrade

With Eaton's EnergyAware kits upgrade, UPS with lithium battery can do much more beyond UPS.

Demand charge management

User avoids demand charges by discharging at peak times.

Time-of-use optimization

Shifts energy consumption to avoid peak energy usage.

Demand response

Utility company requests reduction in power usage.

Frequency regulation

Charge or discharge battery on command to stabilize the grid.

Aggregation services

Manage multiple assets in a building or campus to work as a single entity.

To find out more about EnergyAware, visit Eaton.com/EnergyAware

EATON 93PR 500-600 kW UPS TECHNICAL SPECIFICATIONS*

Power modules

Power offering (kW)	600kW in 60kW increments
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Frame options

Frame Offering	<p>600kW frame with 60kW modules</p> <p>UPS can be configured in different output ratings depending on site ambient temperature</p> <ul style="list-style-type: none"> • 600kVA/ 600kW at 30°C continuous • 550kVA/ 550kW at 35°C continuous • 500kVA/ 500kW at 40°C continuous
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General characteristics

Efficiency in Energy Saver System (ESS)	Up to 99%
Efficiency in double-conversion mode	Up to 97.5%
Parallel capability	Maximum 8 units external parallel
Cold start	Supported
Softstart	Rectifier ramp up, compatible with generator, ramp up rate configurable

Input characteristics

Voltage	380/400/415V
Voltage range:	301~478V L-L 175~276V L-N
Frequency range	50/60 Hz
Power factor	> 0.99
Input current distortion	< 3% @ 100% load capacity

Battery

Battery Type	Lithium, VRLA, Ni-Cad
Charging method	BMS, ABM or constant float charge
Battery Voltage	360-640 Vdc
Battery Connection	Support common battery

Output

Voltage	380/400/415V 4 wire
Frequency range	50/60 Hz
Regulation	±1% steady state
Voltage THD	< 1% (100% linear load) < 5% (non-linear load)
Overload	125% 10 mins

Certification

Safety	IEC62040-1
EMC	IEC62040-2
Performance	IEC62040-3
Certificate	CE

Optional accessories

<ul style="list-style-type: none"> • SNMP Card • X-Slot Modbus RTU Card • INDRELAY-MS Card • Network-M2 • INDGW-M2 • PXGMSUPS Card • External Sync Control Box • Lithium battery cabinet • Top exhaust kits
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UPS dimensions (mm)

Height	2069
Depth	1100
Width	1200

UPM dimensions (mm)

Height	173.4 (4U)
Depth	700
Width	439

Weight (kg)

UPS (w/o UPM)	766
UPM	39

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

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