

Eaton 93PR UPS

Complete modular data centre solution

Lithium-ion Compatible



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 centres, commercial buildings, healthcare industry and many other applications.

- Smaller footprint
- Modularity
- Silicon carbide-based converter
- Safer and long-lasting oil-filled capacitor
- Lithium-ion battery compatible
- Eaton EnergyAware technology

Ideal for mission-critical applications in:

- Data centres
- Healthcare
- Commercial buildings
- Control centres

Extra Low Total Cost of Ownership

Conserves valuable data centre 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.

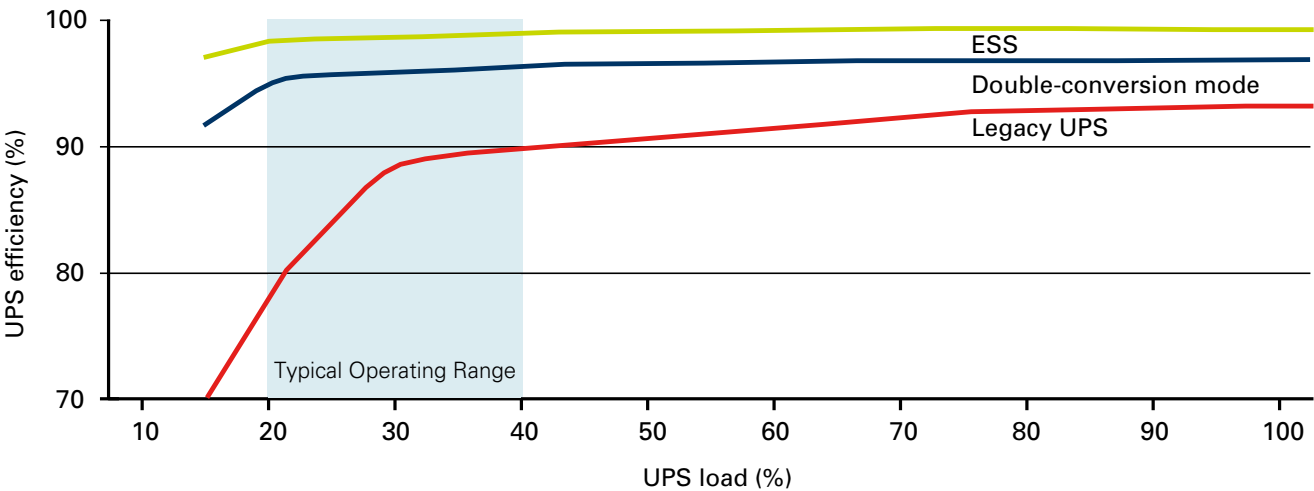
- 99% efficiency with ESS
- Up to 97%* efficiency in double conversion model

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.

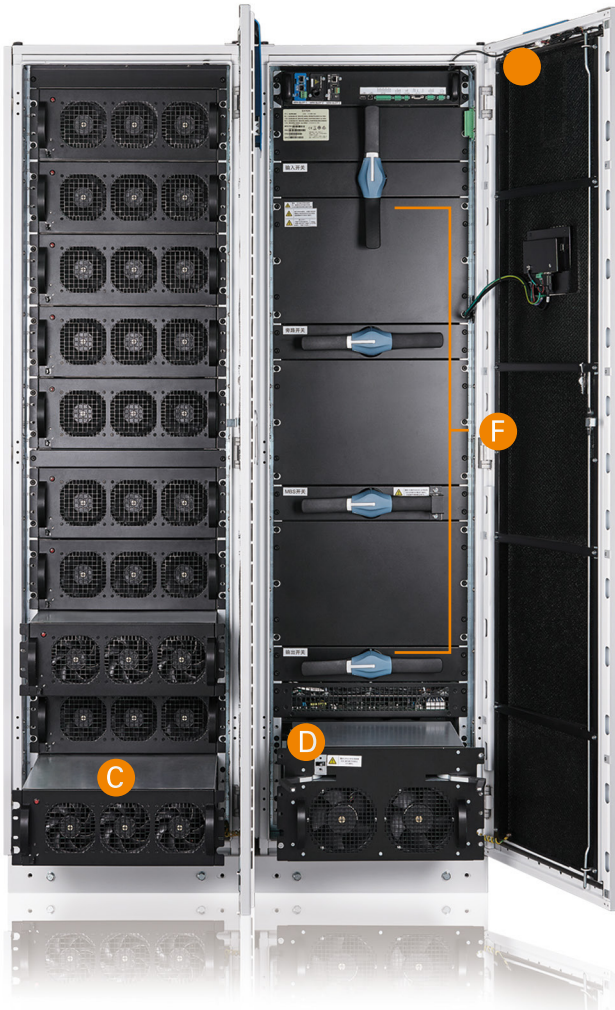


The 93PR's vertical scalability, internal redundancy and compact footprint design



The functional core of the 93PR UPS

Illustrated with 93PR-600 model, applicable to other models in the range.



- 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
- 60kW HOTSWAPPABLE power modules (1~10)**
- Hot replaceable STSW module**
600kW with fast protection bypass fuse and back-feed protection
- 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 minutes

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)

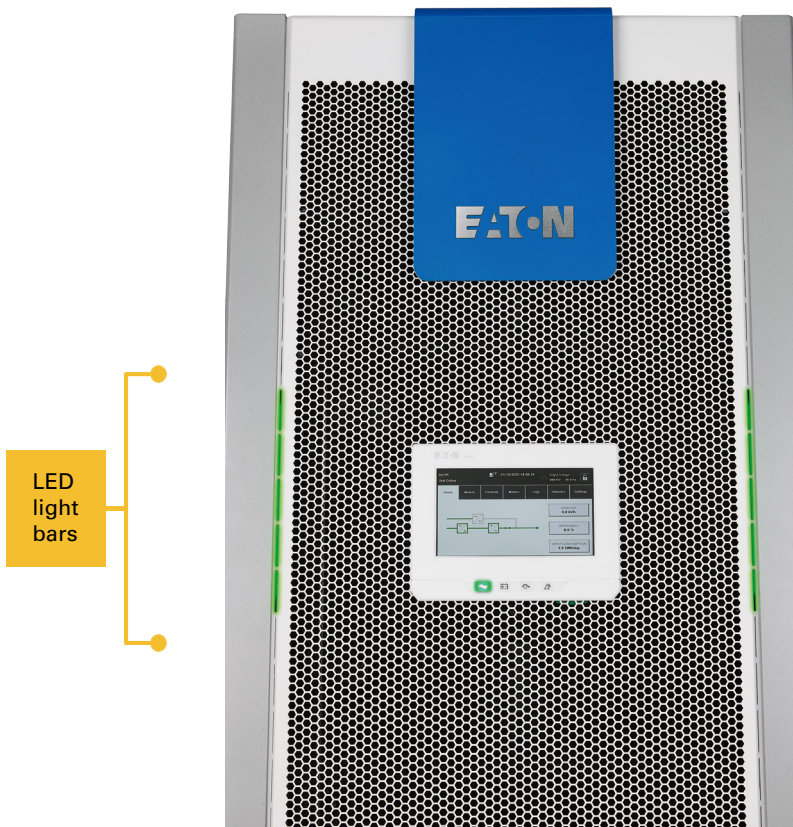


Enhanced efficiency and reliability with SIC Hybrid IGBT Module



Long life oil-filled capacitor

Easy management



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.

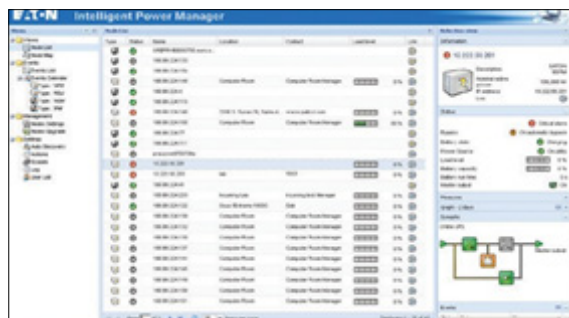
The green/yellow/red LED light- bars make system status visible from a distance in data centres.

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.sg/software

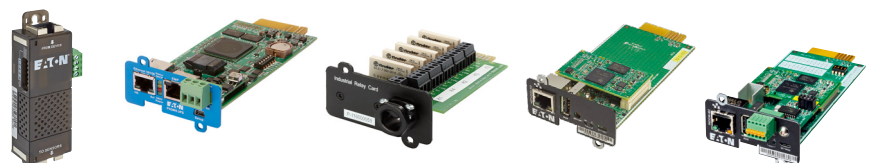
Red light bars showing alerts on system. Yellow light bars indicate battery and bypass status.



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 optimises power and environmental conditions for data centres 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

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.


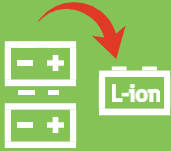

Lithium-ion chemistry demonstrates superior characteristics in UPS applications, this results in high energy density, long life, flexible installation, improved cycle life and a lower TCO. Contact Eaton for backup times and configurations. A wide range of runtimes from 3 minutes to an hour + are available.

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.

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.

The BMS incorporates cell and module balancing controls. This function optimises 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	
Reduce risk	24/7 BMS monitoring	

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

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 optimisation

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.sg/energyaware

Eaton 93PR UPS technical specifications*

Catalogue	93PR-300	93PR-600	93PR-1200
Model	300kVA/ kW	600kVA/ kW	1200kVA/ kW
Power offering (kW)	300kW in 60kW increments	600kW in 60kW increments	1200kW in 60kW increments
Frame Options			
Frame offering	Standard input, output, MBS, Bypass input switch UPS can be configured in different output ratings depending on site ambient temperature <ul style="list-style-type: none">• 300kVA/ 300kW at 40°C continuous	Standard input, output, MBS, Bypass input switch UPS can be configured in different output ratings depending on site ambient temperature <ul style="list-style-type: none">• 600kVA/ 600kW at 40°C continuous	UPS can be configured in different output ratings depending on site ambient temperature <ul style="list-style-type: none">• 1200kVA/ 1200kW at 40°C continuous
General Characteristics			
Efficiency in Energy Saver System (ESS)	Up to 99%		
Efficiency in double-conversion mode	Up to 97%*		
Parallel capability	4 x parallel, extendable to 8x with customisation	4 x parallel, extendable to 8x with customisation	4 x parallel, maximum 4.8MW
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		
Battery Voltage	360~700 Vdc		
Battery Connection options	Support 1+1 common battery		
Output			
Voltage	380/400/415V 4 W-ire		
Frequency range	50/60 Hz		
Regulation	±1% steady state		
Voltage THD	< 1% linear load < 3% non-linear load		
Optional accessories	<ul style="list-style-type: none">• Communication: Dry contacts, ModBus RTU/TCP/IP, SNMP cards• External Sync Control Box• Top exhaust kits		
Certification			
Safety	IEC62040-1		
EMC	IEC62040-2		
Performance	IEC62040-3		
Certificate	CE		
UPS dimensions (mm)			
Height / Depth / Width	2000 / 1100 / 600	2069 / 1100 / 1200	2069 / 1100 / 2400
UPM dimensions (mm)			
Height / Depth / Width	173.4 (4U) / 700 / 439		
Weight (kg)			
UPS (w/o UPM)	360	766	1528
UPM	39	39	39

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