Product Catalogue

UPS and Power Quality Products

Australia and New Zealand

Powering Business Worldwide

Contents




Powering Business Worldwide

Founded in 1911, Eaton® is a diversified industrial manufacturer and a global leader in various industrial markets, including:

- Electrical systems and components for power quality, distribution and control
- Hydraulics components, systems and services for industrial and mobile equipment
- Hydraulics, fuel and pneumatic systems for commercial and military aircraft
- Intelligent truck drivetrain systems for safety and fuel economy
- Automotive engine air management systems, powertrain solutions and specialty controls for performance, fuel economy and safety




Eaton has approximately 102,000 employees worldwide and sells products to customers in more than 175 countries.

Sustainability has always been at the heart of Eaton's business – this means meeting the current needs of our society while enabling future generations to meet their own needs. Sustainable design for our products means helping our customers utilise electrical power more efficiently while significantly improving environmental performance.

At Eaton, we apply the ISO 14001, an international environmental management system, on site and R&D certification to all of our facilities.

In addition, to clearly demonstrate and communicate the environmental value of the products to customers and consumers, Eaton has developed a rigorous evaluation process based on the guidelines of international organisations such as the International Standards Organisation (ISO). Eaton products and services meeting the environmental standards of this process earn the Eaton "Green Leaf" label. Though all of our products are designed to meet government standards and public expectations for protecting the environment, "Green Leaf" products and solutions go well beyond normal standards to provide exceptional benefit to our customers and the environment.

We also care for the way our parts and materials are supplied. Eaton is a part of Green Suppliers Network, a network that helps its component suppliers to develop "Lean and Clean" manufacturing processes that result in reduced waste and saved money, all while reducing their impact on the environment.

For more information on how Eaton is Sustainable by Design, please visit www.eaton.com/sustainability.

An Eaton Green Solution

Eaton offers the largest selection of power management and protection solutions available in the industry. From the desktop to the data centre, from AC-powered to DC-powered equipment, Eaton is your one-stop partner for all your power needs.

Eaton's Power Quality solutions provide the confidence that power problems will not disrupt your systems, data and operation. Delivered through more than 50 years of solid performance, in-depth knowledge of customer applications, continuous innovations and world-class services. Eaton solutions have been recognised by UPS users and industry experts for delivering highest customer value and satisfaction, as well as for demonstrating most insight into customer needs among all UPS vendors.*

* Frost & Sullivan Award for Customer Value and Satisfaction and Frost & Sullivan Award for Product Line Strategy.

Eaton product and service range

- AC UPS from 550VA up to 3500 kVA
- DC systems of all sizes
- A broad portfolio of rack-based power distribution units (ePDU™)
- IT rack enclosures, airflow management and heat containment systems
- Software and connectivity products for power management and remote control
- Technical support and maintenance
- Complete power quality solutions

Eaton products are manufactured in factories located in Finland, USA, China, Taiwan, India, Morocco and New Zealand.

Selecting the Right UPS

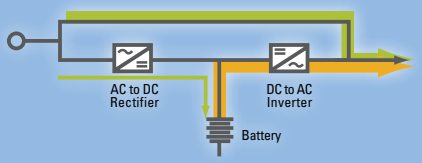
Eaton's power management solutions are based on protecting the nine most common power problems present in any environment. This unique approach makes your product selection decisions about power protection much simpler. The nine power problems listed below are potentially harmful to both your data and your hardware. Eaton's products offer three levels of power protection:

Series 3, Series 5 and Series 9. Based on the parameters defined by your application, you can select an uninterruptible power system (UPS) from the series that best matches your power protection needs.

To provide maximum power protection, Eaton offers a full line of Series 9 UPSs with both single-phase and three-phase models in the Series 9 family.

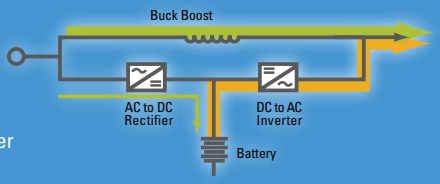
Within each Series, Eaton has created 3 classes of products; to provide "Good, Better and Best" levels of features and performance and enable the best product fit for any application and budget.

Series 3 Standby UPS: Backup power



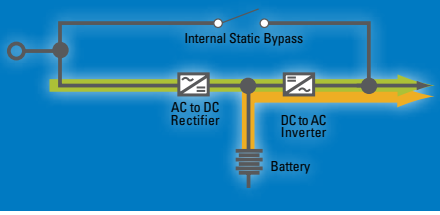
The Eaton's series 3 UPS primarily protects against three of the nine power problems including power failures, power sags and power surges. This essential, cost-effective protection is necessary in order to prevent damage such as data loss, file corruption, hardware damage and equipment shutoff. For example, if your utility fails you could lose all of your work-in-progress. The Series 3 UPS offers a degree of protection against the remaining power problems and is most commonly used to protect single workstations and point-of-sale (POS) equipment.

Series 5 Line Interactive UPS: Keeping it smooth



Eaton's series 5 UPS are most effective against five power problems (power failures, power sags, power surges, under-voltage and over-voltage) and offer a degree of protection against other power problems. Some of the damages you risk by not using a Series 5 UPS include premature hardware failure, data loss and corruption, data error, keyboard lockup, storage loss and system lockup. Series 5 UPSs are recommended for small network systems - all the way up to enterprise networking environments.

Series 9 On Line Double Conversion UPS: Total Protection



Eaton's series 9 UPSs protect against all nine power problems: power failures, power sags, power surges, under-voltage, over-voltage, line noise, frequency variation, switching transients and harmonic distortion. Eaton's series 9 comprehensive protection minimises the opportunity for component stress, burnt circuit boards, data crashes and program failures. Series 9 UPSs offer the highest level of power protection available and are always recommended for mission-critical applications like server farms, hospitals and Voice Over Internet Protocol (VOIP) applications.

Eaton has been developing its innovative technical solutions in the power protection field since receiving its first patent in 1962. As a technology leader Eaton meets the customers' fast growing needs with advanced patented technologies.

Eaton's three-phase UPS products are based on the same technical platform, including a similar internal topology, common control hardware and algorithms, standardised communications capabilities and a common user-interface.

Single platform benefits

- UPS units behave in a uniform way and carry similar features
- Product upgrades are easier as the process is identical
- Improved service capabilities due to usage of common spare parts and accessories across product families and standard service tools
- Similarity of service training and documentation guarantee that customers in all countries receive the same high level of service
- Lower total cost of ownership

Transformer-free Technology

The transformer-free technology used in Eaton UPSs with small and lightweight filter inductors, high performance IGBTs in both inverter and rectifier, and advanced control algorithms brings improved performance and value. Compared to legacy UPS topology designs, a transformer-free UPS is typically only 50% the weight and occupies just 60% the footprint. Low input THD (<5% at full load) and high input power factor (>0.99) are supported down to nearly 10% load without the need for an additional input filter. In addition, full load efficiency can reach up to 97%.

User benefits

- High efficiency
- Less weight
- Smaller footprint

The number one function of a UPS is to supply continuous conditioned, reliable electricity to critical loads. In the case of a single unit, reliability can be increased by modular design, where redundant internal modules can take over each others' tasks, if one of the modules fails. To further increase reliability, a true parallel configuration can be employed, where two or more units share the load. A failed unit is isolated while the remaining ones continue to support the critical load. Competitive UPS products on the market utilise centralised or distributed load sharing technology with a Master-Slave principle, which introduces a risk of single point failure. The absolute reliability of a UPS system can be reached with patented Eaton Hot Sync® parallel load sharing technology. (Figure 1)

Hot Sync® technology is designed for parallel redundant N+1 systems to satisfy 24/7 applications. It can also be used in parallel capacity systems to benefit from scalability for customers' ever-increasing load demands.

Hot Sync® eliminates single point of failure, with the ability to synchronise and support critical loads independently of other UPS modules in the system. UPS modules can share loads without any communication wiring to the outside world.

The secret here is a patented built-in digital signal processor (DSP) algorithm, running continuously in each unit. It drives the UPS outputs toward synchronisation and takes care of load sharing. If there is a common bypass available, it is used as valid synchronisation source for output. In the absence of common bypass, the processor makes subtle adjustment to the inverter frequency on the basis of output power level measurement in order to find a common frequency and load balance among the units. There exists, as shown in Figure 2, a relationship between the power imbalance and the voltage phase difference.

Hot Sync® technology allows full maintenance to be performed one-by-one on redundant UPS modules without an external maintenance bypass switch. The critical load does not need to be disconnected from the conditioned power. Scheduled or unscheduled maintenance can be perfomed with the load supported continuously by the UPS-grade clean power.

Parallel Output, Load Bus

User benefits

- Available for both single and three-phase products to meet any mission-critical need up to 3.5 MVA (400V) systems
- Easy and modular parallel UPS system upgrade with additional capacity or redundancy
- Eliminates single point of failure

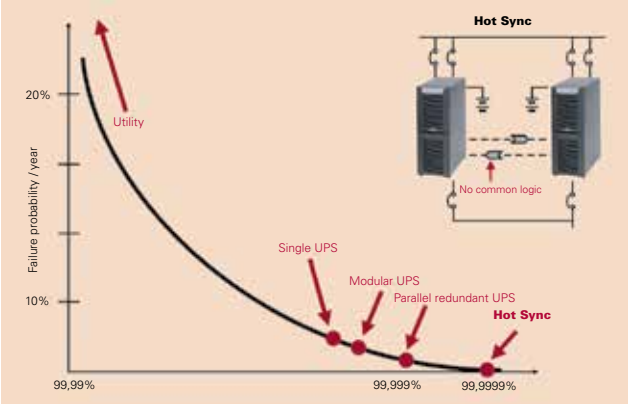


Figure 1. Patented Hot Sync® technology provides the highest availability for load.

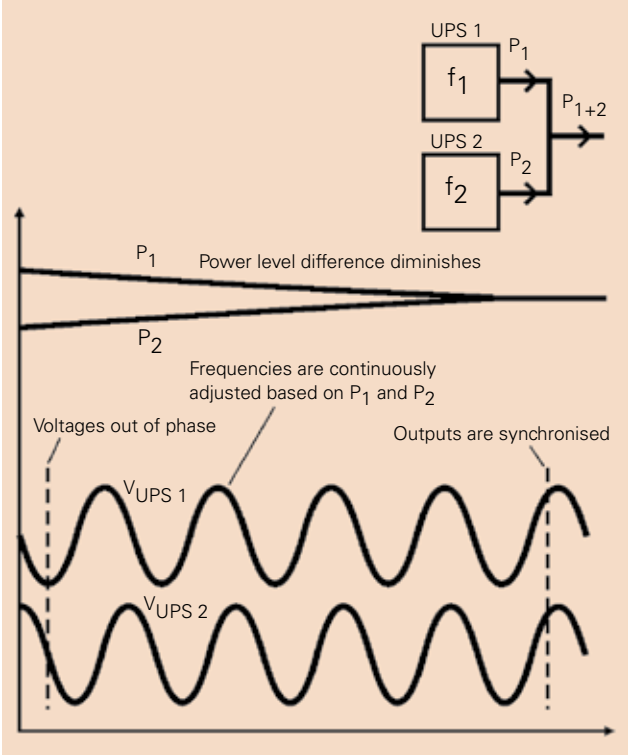


Figure 2. Well-balanced load share is achieved by adjusting output frequencies; thus the phase difference between parallel UPS output voltages is forced to zero.

ABM® Technology

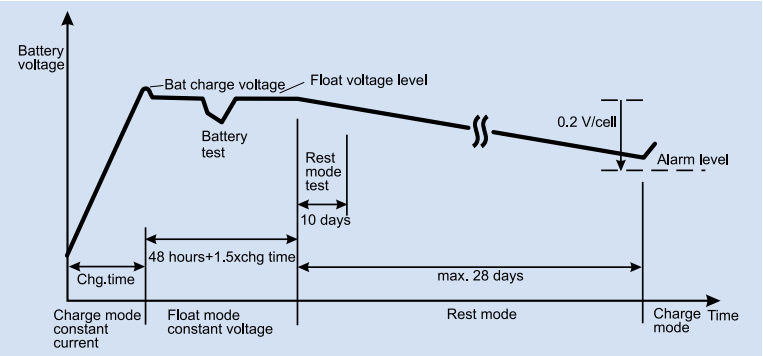
Battery service life is a major contributor to UPS reliability. Since batteries are electro-chemical devices, their performance gradually decreases over time. Premature wear-out means higher costs in terms of replacement labour and shorter service cycle. A worn battery entails a risk of unexpected load loss. In normal UPS operation, back-up power is needed only occasionally and the battery 'wearing' rate depends strongly on how the full charge is being maintained. Excess charging is detrimental under any operating circumstances.

Eaton has created ABM® Technology to extend the life of valve regulated lead-acid batteries by applying sophisticated logic to the charging regime. Using traditional trickle charge method, batteries become subject to electrode corrosion and electrolyte dry-out, especially in standby service use due to continuous float charging. ABM® is essentially an addition of intelligence to the charging routine by preventing charging when it is not necessary, thus significantly retarding wear-out. ABM® provides an additional feature for monitoring battery condition and advance warning about the end of battery life upon detection of a weak battery. Also, it optimises the recharge time, which is advantageous when there may be consecutive power outages within a short period. ABM® has been used for over fifteen years in our UPSs ranging from 1 to 160 kVA and is now applied in UPS' up to 1100 kVA.

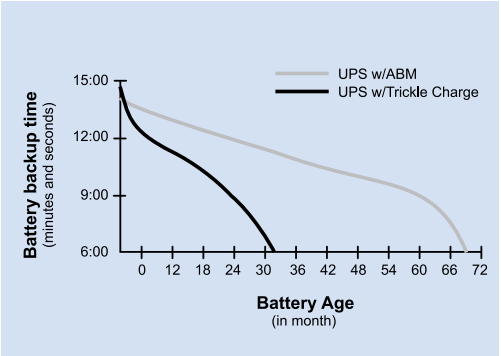
User benefits

- Predictive and automatic diagnostics of Battery Health
- Significant extension of battery life compared to traditional charging method
- Optimisation of battery recharging time with dual mode charging method
- Automatic battery charge voltage compensation within 0 to +50°C temperature range

ABM® cycle and operation – how does it work?
The basic idea about ABM® is to leave a fully charged battery in rest mode for most of the time, and then apply charge current only at certain intervals. Initially, in order to charge up a fully or partly discharged battery, the charger starts at a constant current appropriate for the battery type used. When the battery voltage reaches a set level the operation is changed to float mode using a constant but lower voltage, thus providing an optimum recharge time. The battery is kept at this voltage for 24 hours until it comes to the first test point. This takes approximately one minute and during this period voltage drop measurements are taken while loading the battery, giving an indication of battery condition. The float charging is continued for an additional 24 hours, plus a period equal to 1.5 times the constant current charging time, before the rest mode is initiated. At this point, the charging is discontinued for a maximum of 28 days – as if the batteries were disconnected. During the first 10 days the battery voltage is continuously monitored, and if it drops below 2.1 V/cell, the ABM® re-starts in charge mode and the user gets a notification of improper battery operation. If it drops below this limit after the 10 day period, charging is resumed without alarm. In short, the algorithm uses three charging stages in its operation. Thus, the batteries experience much less stress than in the case of traditional charging. A typical battery charging cycle without power interruptions is shown in the graph below.



Battery voltage during ABM® charging process.



ABM® technology significantly increases battery service life

Energy Advantage Architecture (EAA)

The rising demand for highly available, reliable and efficient power is a continuous challenge for data centre operators. Higher energy efficiency helps to address increasing environmental, regulatory and economic pressures.

Eaton has developed innovative and proprietary technologies that improve system efficiency without compromising on reliability under the Energy Advantage Architecture (EAA) umbrella.

Energy Saver System (ESS) is one of these technologies.

Maximised energy efficiency

With 85% reduction in UPS energy losses, ESS technology dramatically reduces energy consumption, environmental impact and power costs without compromising load protection. Those outstanding energy savings typically recovers 100% of the UPS cost over a 3 - 5 year period.

No compromise on reliability

In ESS mode the UPS safely provides mains current directly to load when the input is within the acceptable limits by its voltage and frequency. If input power goes outside the preset limits by frequency or voltage, the UPS switches to double conversion.

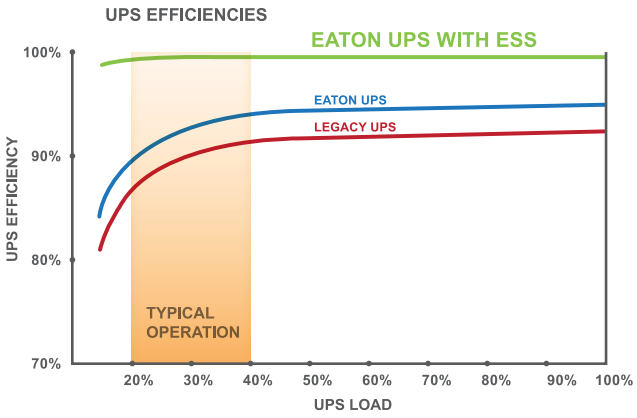
If input power is outside the tolerances of the system, the UPS draws power from available battery modules.

Superior detection and control algorithms continuously monitor incoming power quality and allow the UPS to engage power converters in less than two milliseconds time when utility source goes out of pre-defined limits by its voltage or frequency, thus always providing secured power to the critical load while maximising efficiency. In case of UPS detecting a fault condition while operating in ESS, the UPS is capable to detect and determine whether the fault is caused by load or if it is upstream from the UPS. A fault at the bypass source results in immediate switchover to the inverter; a fault in the load keeps the UPS in Energy Saver System.

Proven Eaton technology ensures reliability and continuous load availability without compromising the protection of the supported equipment.

ESS allows for market leading 99 percent efficiency

across the entire operating range. Compared to conventional 'eco-mode' capabilities available with legacy products, ESS offers the best possible efficiency and the fastest transition times to double conversion when power disturbances occur.



Extensive configurability

Eaton UPS with Energy Saver System features three configurable modes of operation:

- Standard double conversion mode: the UPS operates as normal, supplying power through the power converters
- Energy Saver System: the power converters are in ready state and the static bypass switch allows the UPS to supply mains power directly
- High Alert mode: the UPS automatically transfers from ESS to double conversion and in case of multiple reoccurring utility line disturbances it stays there for preconfigured time (default 1 hour) until it is safe to return to ESS

UPS seamlessly executes transitions through different operating modes as needed. This is only possible with transformer-free topologies.

Availability

ESS is available to all 93PM and PowerXpert 9395 UPSs. Also parallel UPS systems support operation in ESS mode. All earlier made installations can be upgraded with ESS capability.

Variable Module Management System (VMMS)

Variable Management Module System (VMMS)

is a key component of Energy Advantage Architecture. Eaton VMMS technology maximises UPS efficiencies at low load levels while supplying the load with continuous double-conversion power. Most UPS installations are only loaded between 20-40%, but UPSs are not optimally efficient when used at these lighter loads.

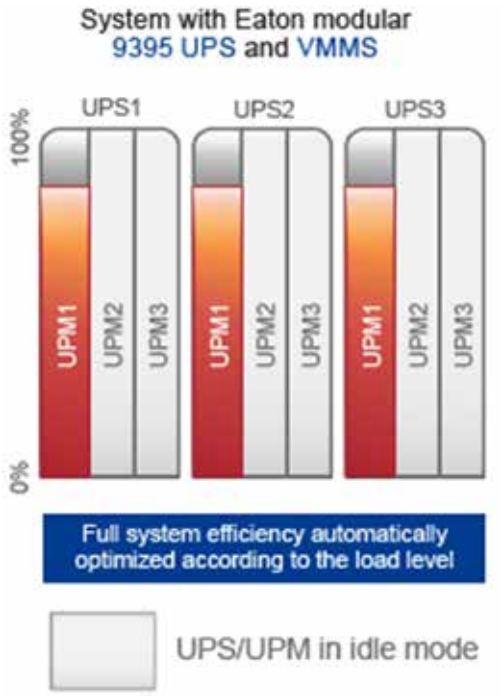
Existing method for increasing load percentage

The existing approach to capturing efficiency from low load levels applied only to multi-UPS parallel systems. The system can increase the effective load percentage by putting entire UPSs into idle. While this helps improve efficiency slightly, it is limited to multi-UPS parallel systems, and flexibility to adapt to the load can only be done in the large steps of full UPS capacity.

The VMMS way

VMMS optimally employs UPMs to achieve higher efficiencies in double-conversion mode in order to maximise the load level on remaining active UPMs by setting UPMs that are not needed to ready state.* This is calculated according to VMMS load threshold of the UPMs – 80% by default – and the system configuration (redundancy requirements). This results in maximised energy savings.

VMMS is possible thanks to Eaton Power Xpert 9395 UPS modularity, and VMMS applies even in single-UPS systems. Upon a load increase on critical bus, all ready state UPMs are able to react quickly and revert to double-conversion mode in less than 2 ms by connecting the existing PWM signals to the IGBT gates.



Extensive Configurability

Customers can decide how to configure their system establishing the number of redundant UPMs and the maximum load level per UPM.

VMMS can be used in single (multiple-UPM), and multi-UPS

Power Xpert 9395 systems

- Single 9395 units from 550 kVA to 1100 kVA
- Distributed parallel systems (Xx275, Xx550, Xx825, Xx1100)
- SBM centralised bypass system

Earlier installations can also be upgraded with VMMS

Applications

Applications where VMMS is particularly efficient:

- Redundant N+1 and 2N systems – Lightly loaded: <45% load level
- Critical data centres, especially when UPS feeds dual corded servers
- Any applications where load varies frequently

Availability

VMMS is available to all 9395 UPSs. All earlier made installations can be upgraded with VMMS capability.

Service

Only Eaton can offer you the support from our factory-trained and certified service technicians located near you.

Eaton Customer Service Engineers are supported by a 24x7 dispatch arrangement, convenient parts depots and a technical support team with complete knowledge of Eaton products to give you the confidence that your power protection equipment is in the best hands.

Only Eaton is authorised to perform service using Eaton diagnostic software to calibrate start-up, reset communications, and perform critical service repairs. Service contracts are your best value compared to the cost and risk of time and material.

Downtime and lost data are priceless. Please do not wait until there is an emergency to realize the value of having a service contract.

Place your confidence with Eaton, a global leader with:

- A long history of technology leadership to give you the best protection
- The most complete line of hardware and software products to fit your needs
- A world-class services organisation to provide you with peace of mind

We have a range of service contract offers, that start from a basic preventative maintenance program and range to a comprehensive program including all parts and labour, these programs offer support to satisfy all your business requirements, options include business or after hours support, on-site technical response within 2 or 4 hours, supported 24 hours 7 days a week , we also offer a customer service support number and remote monitoring service to satisfy your on demand needs.

These programs can extend to 5 years and beyond so this gives you peace of mind that your initial investment will be supported in the coming months and years.

Please do not hesitate to contact your local sales representative to discuss your service requirements.

Eaton Service Helpdesk

Emergencies - Three-phase products and Single-phase greater than 6kVA

For emergencies you can call our 24 Hour Hotline where a service technician can be dispatched to attend site.

AUST 1300 303 059 **NZ 0508 697 378**

(Callout fees are reduced or do not apply depending on the service contract level you hold with Eaton)

General Service Enquires

You can reach us by calling our 24 Hour Hotline

AUST - 1300 303 059
Hours: 8.30am to 6.00pm AEST on business days
Email: eeshelpdesk@eaton.com

NZ - 0508 697 378
Hours: 8.30am to 5.00pm NZT on business days
Email: nzservice@eaton.com

COMING SOON

Site inspections: Consultative service that aims at securing the best possible operational environment for your UPS to ensure its fault-free operation.

Installation: Eaton's service engineers can help you set up and configure your entire UPS, including its connections to your monitoring system and, if desired, to remote monitoring system.

Commissioning: Our service engineers help you start up your UPS and make sure it works as intended, performing all necessary checks before turning the system over to you.

Preventative maintenance: Equipment cleaning, inspection of installation and operation environment, mechanical inspection, measurements and adjustments, battery condition check, system check, event log analysis, necessary action and eventual repairs. Usually performed once a year, unless otherwise agreed.

Reports: After each maintenance visit, whether regular or emergency, you receive a full written report on the fault and steps undertaken to repair it.

24-hour telephone support: 24-hour, 365-days-a-year access to Eaton's support engineers for immediate help on your UPS system. Available free of charge to all Service plan customers.

Extended warranty: For a small fee, you can extend the warranty of your UPSs incrementally up to 5 years, for all single phase product range.

Power quality analysis: As time goes by, the loads on both your UPS and the mains may change. Eaton's service engineers can analyse the quality of the power being fed to your equipment and suggest remedies if necessary.

Battery analysis and replacement: Because batteries are the most important part of a UPS, we pay particular attention to their condition. Only rigorously tested, high-quality batteries are used in Eaton UPSs. Battery life is optimised through our ABM® battery charging method. Eaton's service engineers keep your batteries as good as new, changing them when necessary and disposing of the old batteries in an environmentally sound fashion. When the batteries are changed, all cabling is also be replaced to prevent problems through oxidisation. Finally, the battery system is tested under normal operating conditions.

System upgrades: During maintenance visits, our service engineers analyse the load and performance of your UPS and, if necessary, suggest changes to accommodate new needs. You will never find yourself running an obsolete or undersized system.

Spare parts: Entering an Eaton service agreement guarantees you the use of only the best quality, factory-approved spare parts. Authorised Eaton's service representatives stock the most often needed spares, and their stocks are quickly replenished from Eaton's strategically located regional logistics centres. The cost of spares is included in all Powertrust Service Plan options.

On line Remote Service: Your UPSs can link directly to Eaton's regional Service Centre via the Web. Remote monitoring software residing on Eaton's computers will keep an eye on your UPS status, sounding an alarm immediately if its monitored parameters are out of the ordinary. The remote monitoring system can only link into your UPS. It has absolutely no access to your business data. Alarms received are relayed by mobile phone to Eaton's duty engineer who takes action immediately. The remote monitoring is an ideal enhancement to your service package. Ask your Eaton representative for details.

Extended Service Plans (ESP)

Extended Warranty and Service Plans for Eaton Single Phase UPS

Eaton's Extended Service Plans (ESP) are a suite of warranty uplift and enhanced service plans tailored to suit Eaton's Single-Phase UPS portfolio in most deployment applications. ESP provides cost effective & hassle free extended warranty and service enhancements for Eaton's single phase UPS products for up to 4 years from date of purchase or commissioning.

Just set and forget when you purchase an ESP, as Eaton partners with YOU, simplifying the post sales support process of your critical power infrastructure. When you purchase an Eaton ESP product, a range of additional support benefits are opened up to you including:

- Warranty extension
- Advance replacement
- Streamlined logistics
- Contract customer status & priority service

Strategically designed for the most critical of IT assets, our premier level of cover (Warranty+ Premium) additionally includes start-up commissioning plus an annual preventative maintenance visit for the duration of the ESP.

ESP is an ideal customer care solution in today's ALWAYS ON business environment.

Eaton ESP overview

1. Warranty+ Standard

- Applicable for Eaton's single phase UPS systems up to 11kVA.
- Available for 3rd or 4th year uplift
- Same business day dispatch, advance replacement*
- New unit delivered direct to the customer site nationally, Eaton covers all logistics costs.
- Next Business Day Response onsite for hardwired single phase UPS systems 3.1kVA - 11 kVA **
- Eaton to organise collection of the faulty unit for disposal (if required)***
- Access Eaton customer service centre 5x8

2. Warranty+ Premium

- Applicable for Eaton's hardwired single phase UPS systems 3.1kVA - 11kVA.
- Available for 3rd or 4th year uplift
- Same business day dispatch, advance replacement *
- Next Business Day Response onsite**
- Startup / Commissioning (including basic UPS functionality operator training) plus 1 x preventative maintenance visit with report per year conducted during business hours ****
- Eaton to organise collection of the faulty unit for disposal (if required) ***
- Access Eaton customer service centre 24 x 7

Notes:

1.* Same business day dispatch of Eaton Single Phase UPS products up to 11kVA (excludes Eaton 9155 & MX Frame UPS) with Advance Replacement and all logistics nationally.

• Softwired Eaton UPS ≤ 3kVA is the customers responsibility to re-install.

• Hardwired Eaton UPS 3.1kVA - 11kVA (excludes Eaton 9155 & MX Frame UPS) replacement parts will be dispatched to site in advance or taken with the Service technician at the next business day onsite response **.

• The cut off time for dispatch is 3:00 p.m. AEST/AESDT, Mon-Fri.

2.** Next Business Day response by Eaton Technician/Authorised Agent for hardwired Eaton UPS >3kVA (excludes Eaton 9155 & MX Frame UPS) to attend to fault is only applicable for locations within 100kms of Eaton Service Locations and/or Service Agents Nationwide. Additional travel charges apply for areas outside this range. Includes basic disconnect/re-connect of UPS power tails as required. Please contact your Eaton Representative for travel charges for a selected area.3.*** Disposal collection will take place during the time of delivery of a new unit or next business day. Clients are to have Eaton products appropriately packaged and ready for collection to avoid additional transport charges.

4.**** Initial Startup and Annual PM visits to be conducted during normal business hours and scheduled accordingly upon request from the customer. Upon completion of the warranty registration, customers will receive an email notification with our service center details requesting for scheduling to be made. Customers will also be advise for PM visits to be scheduled within 8-9 months from date of installation.

5.All Eaton UPS systems must be installed and operated in accordance with manufacturers documented operating procedures. Failure to adhere to these procedures may void warranties.

6.ESP registration can be done via the Eaton website at the "register a product (warranty)" portal. Registration will be required within 30 days from date of ESP purchase. A confirmation email will be provided to the customer upon registration, for further information and scheduling details where applicable.

Eaton 3S

Technology: **Series 3 (Standby)**
Rating: **550 & 700VA**
Voltage: **240Vac**
Backup time: **Typical 5 min**
Configuration: **Powerboard style**

ECO CONTROL
up to 30% energy saving

Protection against power problems

- The Eaton 3S UPS helps to protect your computer equipment in case of everyday events such as lightning strikes, storms, over-demand on the utility grid, accidents, and natural disasters knocking out power without warning
- In the event of a total blackout, the unit provides sufficient battery backup time to last through most power outages
- The 700VA model saves up to 30% energy through its EcoControl function which automatically disables peripherals when the master device, such as a computer, is turned off
- The 3S also protects telephone, broadband and Ethernet line from "back door" power surges
- The shutdown software makes it possible to automatically save your work and shut down your application without losing any data. Once the power is restored, you can continue working exactly where you left off

Easy integration and installation

- Attractive design and glossy finish make the 3S a perfect fit for the modern office environment
- The 3S comes with a fixed input cable and 6 Australian outlets for easy connection of typical computer configurations with peripherals
- The 3S features a HID-compliant USB port (cable supplied), for automatic integration with common operating systems (Windows/Mac OS/Linux)
- Compact unit fits on or under your desk or can be mounted on a wall
- Easy-to-replace battery helps to extend UPS service life

Ideal for protecting

- Computers and peripherals
- Broadband modems (internet and TV)
- IP telephony equipment
- POS equipment

Eaton 3S Technical specifications

Rating (VA/W)	**550VA / 330W**	**700VA / 420W**
Model numbers	3S550AU	3S700AU
Output connection	3 x Aust 3 Pin 10A outlets with battery backup and surge protection + 3 x Aust. 3 Pin 10A outlets with surge protection	
Characteristics		
Input voltage	Up to 161-284 V (adjustable)	
Output voltage	240 V (settable to 220 V, 230 V or 240 V)	
Frequency	50-60 Hz autoselect	
Input protection	Resettable circuit breaker	
Features		
ECO Control	No	Yes
Line protection	Tel/fax/modem/internet/Ethernet	
Battery		
Battery type	Compact, sealed lead-acid (replaceable)	
Battery test	Yes	Yes
Cold start (no mains power)	Yes	Yes
Deep-discharge protection	Yes	Yes
Battery replacement indicator	LED	LED
Runtime at 50% load	10 min	9 min
Runtime at 70% load	6 min	6 min
Communication	Communications port HID-compliant USB port for automatic integration with most common operating systems. USB cable supplied	
Standards compliance		
Safety/EMC	IEC 62040-1, IEC 60950-1, IEC 62040-2, CB Report, CE mark, C-Tick, A-Tick	
EMC	IEC 62040-2, C-Tick	
Dimensions and weight		
Dimensions H x W x D	86 x 140 x 335 mm	86 x 170 x 335 mm
Weight	2.9 kg	3.8 kg
Warranty	3 year limited warranty on UPS, 2 year limited warranty on battery and $25,000 Load Protection Guarantee.	
Warranty+	Optional Warranty Uplifts	

Battery run times are approximate and may vary with equipment, configuration, battery age, temperature, etc.

Eaton Ellipse ECO

Technology: Series 3 (Standby)
Rating: 1200 / 1600VA
Voltage: 230V
Backup Time: Typical 5 min
Configuration: Rack/Tower

Ideal for protecting

- Computers and Peripherals
- Broadband Modems
- IP Telephony Equipment
- POS Equipment

Energy-efficient power protection for business computers

- With an efficient electrical design and the EcoControl function, which automatically disables peripherals when the master device is turned off, the Eaton Ellipse ECO helps you make energy savings of up to 30 per cent compared to previous-generation UPSs
- As well as providing a power supply backed up by a battery to keep equipment operating during a power failure, the Ellipse ECO also provides effective protection against damaging surges
- The Ellipse ECO includes a high performance surge-protection device that complies with IEC 61643-1, this device also protects data connections such as Ethernet, internet and telephone lines

Easy integration and installation

- The Ellipse ECO comes with eight IEC outlets (1200/1600 models). Two IEC to IEC and two IEC to Aust 3 pin adaptor cables supplied
- The Ellipse ECO's extra-flat design makes it easy to install in any office environment: installation options include vertical box format, below the desk, horizontally under a monitor, 19" rack-mounted (optional 2U kit) and wall-mounted (optional kit)
- The Ellipse ECO is designed to be compatible with a wide variety of different computer models. Eaton power management software is delivered as standard (CD and USB cable supplied) and is compatible with all major operating systems (Windows 7, Vista, XP, Linux and Mac OS)

Complete peace of mind

- Periodic battery self-test ensures early detection of a battery that needs to be replaced
- Easy-to-replace battery helps to extend UPS service life
- Push-button circuit breaker enables easy recovery from an overload or short circuit

Eaton Ellipse ECO Technical specifications

Rating (VA/Watts)	**1200VA / 750W**	**1600VA / 1000W**
Model Numbers	EL1200USBIEC	EL1600USBIEC
Outlets with surge and backup / outlets with surge only	4 / 4 (IEC C13 10A)	4 / 4 (IEC C13 10A)
Cables	Input cable, 1 x IEC-IEC 10A output cable and 2 x IEC to Aust 3 Pin output adaptor cables included	
Characteristics		
Nominal Input Voltage	230V	
Output Voltage	230V – Adjustable to 220 / 230 / 240	
Frequency	50 – 60Hz (Autoselect)	
Input Protection	Resettable Circuit Breaker	
Features		
ECO Control	Yes – up to 30% energy savings	
Line Protection	Telephone/Fax/Modem/Internet/Ethernet	
Battery		
Battery Type	Replaceable Sealed Lead Acid	
Cold Start	Yes	
Deep Discharge Protection	Yes	
Battery Replacement Indicators	LED and Audible	
Runtime at 50% load	10 min	11 min
Runtime at 70% load	6 min	6 min
Communication	Communications port HID-compliant USB port for automatic integration with most common operating systems. USB cable included.	
Standards		
Safety/EMC	IEC 62040-1, IEC 60950-1, IEC 62040-2, CB Report, CE mark, C-Tick, A-Tick	
Surge Protection	IEC 61643-1	
Dimensions (H x W x D)	305 x 81 x 312	305 x 81 x 312
Weight	6.7kg	7.8kg
Customer Service and Support		
Warranty	3 year limited warranty on UPS, 2 year limited warranty on battery and $25,000 Load Protection Guarantee	
Warranty+	Optional Warranty Uplifts	
Accessories	19" Rack Kit (ELRACK), Wall Mount Kit (ELWALL)	

Battery run times are approximate and may vary with equipment, configuration, battery age, temperature, etc.

Eaton 5E

Technology: **Series 5 (Line Interactive)**
Rating: **650 / 850 / 1100 / 1500 / 2000VA**
Voltage: **230V**
Backup Time: **Typical 5 min**
Configuration: **Tower**

Ideal for protecting

- Computers and Peripherals
- POS Equipment

The 5E line interactive uninterruptible power system (UPS) provides affordable power protection for your personal computers, home, office and other electronic devices. While packed with valuable features such as ANZ power receptacles and USB communications, the compact size is ideal for limited office and home working spaces.

Features

- Automatic Voltage Regulation (AVR) stabilises fluctuating power sources
- Microprocessor control design ensures high reliability
- Up to three ANZ receptacles, allowing easy equipment connection
- User replaceable batteries allow easy maintenance
- Start-on-battery provides portable power capability
- Eaton UPS Companion software monitors power conditions and gracefully shuts down computer applications prior to battery depletion
- Intuitive LCD panel annunciates UPS status at a glance

650-850VA

1100-2000VA

5E Series Technical Specifications

Technology	Line Interactive (Automatic Voltage Regulation)				
Rating, VA/Watts	650VA / 360W	850VA / 480W	1100VA / 660W	1500VA / 900W	2000VA / 1200W
Model Numbers	5E650IUSB-AU	5E850IUSB-AU	5E1100IUSB-AU	5E1500IUSB-AU	5E2000IUSB-AU
Characteristics - input/output					
Input Voltage Window	170-280 Volts				
Output Voltage on Battery	230V				
Frequency	50/60Hz, auto detection				
Output receptacles	2 x ANZ 3 pin 10A sockets		3 x ANZ 3 pin 10A sockets		
Input Connection	Fixed 1.5M 10A ANZ 3 pin input cord included				
Battery run time (minutes)					
Typical backup times for 1 PC*	16	20	45	50	50
Typical backup times for 2 PC*	6	8	20	26	26
Typical backup times for 3 PC*	-	-	7	10	10
Typical backup times for 4 PC*	-	-	-	-	5
Start-On-Battery	Unit can be started without being connected to AC utility power, battery recharged is maintained even when UPS is off, whilst connected to mains.				
User Interface					
Visual	1 On / Off Green LED button, AC mode = Steady on, Battery mode = flashing				
Audible	Five audible alarms indicate operating modes; refer user manual				
Communications / management					
Power Management Software	Eaton UPS Companion power management software, downloadable via internet				
Connection Type	1 x USB port to front panel				
Approvals	CE Marking, C-Tick				
Dimensions and weights					
Dimensions (H x W x D)	148 x 100 x 288 mm		180 x 133 x 330 mm		
Weight	4.6 kg	5.1 kg	9.3 kg	10.5 kg	10.5 kg
Warranty	12 Months				
Warranty+	Optional warranty uplifts				

*Battery run times are approximate and may vary with equipment, configuration, battery age, temperature, etc.

Eaton 5S

Technology: **Series 5 (Line Interactive)**
Rating: **550-1600VA**
Voltage: **240 Vac**
Backup time: **Typical 4 min**
Configuration: **Tower**

The Eaton 5S UPS provides effective power protection, even in disturbed electrical environments. Voltage fluctuations are automatically corrected using an AVR device (booster/fader), without needing the batteries.

The 5S not only provides a supply with battery backup to keep equipment operating during power cuts, but also provides effective protection against damaging surges.

The 5S protects networked equipment from back door power surges coming through Ethernet, internet or telephone lines. The 5S s periodic automatic battery testing ensures early detection if a battery needs to be replaced. The easy-to-replace battery helps to extend the UPS service life.

The 5S can be installed vertically over or under a desk, or horizontally under a screen. Its compact, slimline form factor even allows it to be easily integrated into environments with space constraints. The 5S features an HID-compliant USB port, for automatic integration with common operating systems (Windows/ Mac OS/Linux). The 5S is also compatible with Eaton UPS Companion power management software. All models come bundled with a USB cable for PC connection.

Reduce wasted energy consumption from standby power drain of connected peripheral equipment with ECO Control function (850-1600VA models)

Ideal for protecting:

- Workstations
- Business Telephony
- Network devices
- Point-of-sale equipment

Eaton 5S Technical Specifications

Rating (VA/W)	550VA/330W	700VA/420W	850VA/510W	1200VA/750W	1600VA/1000W
Electrical Charecteristics					
Technology	Technology Line-Interactive (AVR with Booster + Fader)				
Input voltage range	175V-275V				
Output voltage	240 V				
Frequency	50-60 Hz autoselect				
Connections					
Number of AUS outlets	6				
Outlets with surge protection and battery backup / Outlets with surge protection only	3 / 3				
Batteries					
Typical backup times at 50 and 70% load*	10/6 min	9/5 min	9/5 min	9/5 min	9/5 min
Battery management	Automatic battery test, deep-discharge protection, cold-start capable, replaceable batteries				
Communication					
User Interface	LED		LCD		
Communication Port	HID-compliant USB port for automatic integration with most common operating systems (Windows Vista, 7 & 8, Linux, Mac OS X), cable supplied				
Data line protection	Tel/Fax/Modem/Internet and Ethernet				
Standards					
Safety & EMC	IEC/EN 62040-1, IEC/EN 62040 -2, CB Report, CE mark C-Tick				
Dimensions and Weight					
Dimensions H x W x D	250 x 87 x 260 mm			250 x 87 x 382 mm	
Weight	4.96kg	5.98kg	6.50kg	9.48kg	11.08kg
Customer Service and Support					
Warranty	2 years warranty including batteries				

Part Numbers	**550**	**700**	**850**	**1200**	**1600**
5S	5S550AU	5S700AU	5S850AU	5S1200AU	5S1600AU

Battery run times are approximate and may vary with equipment, configuration, battery age, temperature, etc.

Eaton 5SC

Typical applications:

- Small office servers
- High-capacity PCs and workstations

Product highlights:

- Extends battery service life and provides advanced warning of the end of useful battery life with ABM® Technology
- Delivers smooth, continuous power with pure sine wave output
- Regulates power fluctuations with Buck and Boost voltage regulation
- Hot swappable batteries
- LCD provides at-a-glance indication of status and important parameters
- Minimises downtime with hot-swappable batteries
- Communicates with Intelligent Power® Protector software via serial and USB ports
- Provides investment protection with a two-year limited warranty

Technology:	**Series 5 (Line Interactive)**
Rating:	**500-1500VA**
Voltage:	**230 Vac**
Backup time:	**Typical 5 min**
Configuration:	**Cabinet**

Options:

- Extended warranty plans

The Eaton 5SC is designed to protect workstations, small servers, hubs, routers, PCs, and other electronic equipment from power disturbances. Ideally suited for small to medium-sized businesses, the 5SC UPS features both USB and serial ports to facilitate software communication.

To prolong battery service life, the 5SC incorporates ABM® Technology, which increases battery service life, optimises recharge time for quick recovery after power outages, and provides advanced warning of the end of useful battery life. In addition, incoming voltage fluctuations are corrected so they do not affect the performance of connected equipment.

Unlike other competitive UPSs in its class, which use a simulated sine wave, the Eaton 5SC provides pure sine wave output during battery operation. As a result, the connected load continues to receive a quality electrical waveform and operates smoothly even during power outages.

To preserve data integrity, the 5SC is bundled with Intelligent Power® Protector, which contains exclusive power management software featuring extensive power monitoring and control capabilities. Backed by superior performance, the 5SC UPS keeps your equipment up and running without interruption.

Eaton 5SC Technical Specifications

Rating	500VA	750VA	1000VA	1500VA
Part number	5SC500i	5SC750i	5SC1000i	5SC1500i
Capacity (VA/Watts)	500/350	750/525	1000/700	1500/1050
Dimensions WxDxH (mm)	150x240x210	150x340x210	150x340x210	150x410x210
Weight (kg)	6.6	10.4	11.1	15.2
Input connection	IEC C14-10A	IEC C14-10A	IEC C14-10A	IEC C14-10A
Output connection	(4) IEC C13-10A	(6) IEC C13-10A	(8) IEC C13-10A	(8) IEC C13-10A
Typical runtime (Full load)	5 min	5 min	5 min	5 min
Operational				
Nominal input voltage (Vac)	230 V			
Input voltage range	184V-276V			
Operating frequency	45 to 55 Hz (50 Hz system)			
Input power factor	Same as load			
Output voltage	230 Vac			
Output voltage regulation	230V (+6/-10 %) (Adjustable to 220V / 230V / 240V), 50/60 Hz +/- 0.1 % (autosensing)			
Overload capacity	120% 5 min; 150% 10 sec			
Efficiency	up to 97%			
User interface				
LCD	LCD with Status, Alarms, Input/Output/Battery measurements			
Standard communication ports	1 USB port + 1 serial RS232 & contacts port			
Environmental				
Operating temperature	0ºC to +35ºC			
Storage temperature	-15ºC to +40ºC			
Altitude	< 3000 m			
Audible noise at 1 metre	< 40dBA			
Certification				
Markings	CE/GS/C-Tick			
Safety	IEC 62040-1, CB Report (TUV)			
EMC (Class B)	AS62040.2.2001			

Battery Runtimes (in minutes)

Load	5SC500i	5SC750i	5SC1000i	5SC1500i
200VA/140W	16.5	25	37	85
300VA/210W	10.5	16.5	23	41
500VA/350W	5	10	13	22
750VA/525W	-	5	7.5	13
900VA/630W	-	-	6	10.5
1000VA/700W	-	-	5	9
1200VA/840W	-	-	-	7
1500VA/1000W	-	-	-	5

Battery run times are approximate and may vary with equipment, configuration, battery age, temperature, etc.

Eaton 5P

Technology: **Series 5 (Line Interactive)**
Rating: **650-1550VA**
Voltage: **230 Vac**
Backup time: **5-10 minutes**
Configuration: **Rack and Tower mount**

Manageability

The graphical LCD display provides clear information on the UPS s status and measurements on a single screen (in seven languages). Enhanced configuration capabilities are also available with easy-to-use navigation keys.

Meters energy consumption and provides kWh values through the LCD and Intelligent Power® Software. Load segment control enables prioritised shutdowns of nonessential equipment to maximise battery runtime for critical devices. Load segment control can also be used to remotely reboot locked-up network equipment or to manage scheduled shutdowns and sequential start-ups.

The 5P offers Serial and USB connectivity, plus an extra slot for an optional communication card (including SNMP/Web card or relay contact card). Eaton s Intelligent Power ® Software Suite compatible with all major OS including virtualization software such as VMware and Hyper-V is included with each UPS.

Performance and Efficiency

With an optimised electrical design, the 5P can provide up to 98% efficiency, contributing to lower cooling and utility costs.

When operating in battery mode the 5P provides a high quality output signal for any sensitive equipment connected, such as active PFC (power factor corrected) servers.

Availability and Flexibility

5P is available as a tower or rack form factor to cater for varied deployment applications. Stronger, longer battery life: Eaton ABM® battery management technology uses an innovative three-stage charging technique that only recharges the battery when necessary, so the battery experiences less corrosion and service life is prolonged by up to 50%.

Batteries can be hot-swapped without ever having to shut down connected equipment. With an optional, hot-swap maintenance bypass module, you can even replace the entire UPS.

Advanced protection for:

- Servers
- Switches
- Routers
- Storage devices

Eaton 5P 1550 tower and rack

1. **Communications card slot**
2. **Remotely switchable outlet groups**
3. **Remote On/Off, Remote Power Off terminal**
4. **USB Port**
5. **Serial Port**
6. **Primary outlet group**

Eaton 5P Technical Specifications

Rating (VA/W)	**650VA / 420W**	**850VA / 600W**	**1150VA / 770W**	**1550VA / 1100W**
Format	**Tower or 1U Rack**			
Electrical characteristics				
Technology	Line-Interactive High Frequency (Pure Sinewave, Booster + Fader)			
Input voltage and frequency without using batteries	160V-294V (adjustable to 150V-294V) 47 to 70 Hz (50 Hz system), 56.5 to 70 Hz (60 Hz system), 40 Hz in low-sensitivity mode			
Output voltage and frequency	230 V (+6/-10 %) (Adjustable to 200V / 208V / 220V / 230V / 240V), 50/60 Hz +/- 0.1 % (autosensing)			
Connections				
Input	Tower: Fixed line cord 10A AU 1.8mtr Rack: IEC C14 (10A) socket	Tower: Fixed line cord 10A AU 1.8mtr Rack: IEC C14 (10A) socket	Tower: Fixed line cord 10A AU 1.8mtr Rack: IEC C14 (10A) socket	Tower: Fixed line cord 10A AU 1.8mtr Rack: IEC C14 (10A) socket
Outputs	Tower: 2 x AU 10A, 3 x IEC Rack: 4 x IEC C13 (10A) C13 (10A)	Tower: 2 x AU 10A, 3 x IEC C13 (10A) Rack: 4 x IEC C13 (10A)	Tower: 2 x AU 10A, 3 x IEC C13 (10A) Rack: 6 x IEC C13 (10A)	Tower: 2 x AU 10A, 3 x IEC C13 (10A) Rack: 6 x IEC C13 (10A)
Remotely controlled sockets	Tower: 2 x 10A AU individually switched	Tower: 2 x 10A AU individually switched	Tower: 2 x 10A AU individually switched	Tower: 2 x 10A AU individually switched
	Rack: 2 x IEC C13 (10A) individually switched	Rack: 2 x IEC C13 (10A) individually switched	Rack: 2 x IEC C13 (10A) individually switched	Rack: 2 x IEC C13 (10A) individually switched
Batteries Typical backup times for 50 and 70% load*				
5P	9/5.5 mins	12/7.5 mins	12/7.5 mins	13/8.5 mins
Battery management	ABM & Temperature compensated charging method (user selectable), Automatic battery test, deep discharge protection, to automatic recognition of external battery units.			
Interfaces				
Communication ports	1 USB port + 1 RS232 serial port and relay contacts (USB and RS232 ports cannot be used simultaneously) + 1 mini terminal block for remote ON/OFF or Remote Power Off			
Communications card slots	1 slot for NETWORK-MS, MODBUS-MS or RELAY-MS cards			
Operating conditions, standards and approvals				
Operating temperature	Models 650, 850 & 1550 = 0°C to +35°C, Model 1550 = 0°C to +40°C			
Noise Level	< 40dBA			
Performance - Safety - EMC	IEC/EN 62040-1-1 (Safety), IEC/EN 62040-2 (EMC), IEC/EN 62040-3 (Performance), C-Tick			
Approvals	CE, CB Report(TUV), C-Tick			
Dimensions W x D x H / Weight				
UPS Dimensions (mm) & weight (kg)-Tower	150 x 345 x 230mm / 7.8kg	150 x 345 x 230mm / 10.4kg	150 x 345 x 230mm / 11.1kg	150 x 445 x 230mm / 15.6kg
UPS Dimensions (mm) & weight (kg)-Rack	438 x 364 x 43.2mm(1RU) / 8.6kg	438 x 509 x 43.2mm(1RU) / 13.8kg	438 x 509 x 43.2mm(1RU) / 14.6kg	438 x 554 x 43.2mm(1RU) / 19.4kg
Customer Service & Support				
Warranty	3 years on electronics, 2 years on batteries			
Part Numbers				
5P Tower	5P650AU	5P850AU	5P1150AU	5P1550AU
5P Rack	5P650iR	5P850iR	5P1150iR	5P1550iR

* Runtimes are shown at 0.7 power factor. Backup times are approximate and may vary with equipment, configuration, battery age, temperature, etc.

Eaton 5130

Technology: **Series 5 (Line Interactive)**
Rating: **1250-3000 VA**
Voltage: **230 Vac**
Configuration: **Rack-mount/Tower convertible**

The 5130 resolves outages, sags, surges, under-voltage and over-voltage conditions - and supplies regulated power to all connected equipment. This UPS is particularly well suited for protecting:

- IT and networking equipment, such as routers, switches, servers, wireless devices, storage systems, security systems and PC/ workstation clusters
- Telecom equipment, such as PBXs, VoIP components and EDGE/3G/ WiMAX wireless networking equipment

The 5130 is value-priced, but it delivers features you would normally expect to find in much higher priced systems, such as: load segment control, hot-swappable battery modules, long battery runtime options, multiple communication options, high output power factor and high power density—all in a sleek, modern package.

Features:

- Protects connected equipment from five of the most common power anomalies: failures, surges, sags, under-voltage and over-voltage
- Provides more real wattage in less space with a 0.9 power factor—to protect more equipment and leave more room to expand IT systems
- Offers the choice of rack-mount or tower installation— with space-saving 2U or 3U reduced-depth packages, including internal batteries
- Enables prioritised shutdown of non-essential equipment during outages to maximise battery runtime for critical devices—with PowerShare
- Maximises availability with extended battery runtime options, hot-swappable batteries, optional maintenance bypass, remote monitoring and power management software

Options:

- Extended Battery Modules for longer run times
- Mini Slot connectivity cards
- Extended warranty plans

Eaton 5130 Technical Specifications

Rating	1250VA	1750VA	2500VA	3000VA	3000VA
Part number	PW5130i1250-XL2U	PW5130i1750-XL2U	PW5130i2500-XL2UAU	PW5130i3000-XL2UAU	PW5130i3000-XL3UAU
Capacity (VA/Watts)	1250/1150	1750/1600	2500/2250	3000/2700	3000/2700
Dimensions WxDxH(mm)	441x509x87 (2U)	441x509x87 (2U)	441x634x87 (2U)	441x634x87 (2U)	441x484x87 (3U)
Weight (kg)	24.3	26.6	33.8	33.8	34.3
Input connection	IEC C14-10A	IEC C14-10A	IEC C20-16A	IEC C20-16A	IEC C20-16A
Output connection	(8) IEC C13-10A	(8) IEC C13-10A	(1) IEC C19-16A (8) IEC C13-10A	(1) IEC C19-16A (8) IEC C13-10A	(1) IEC C19-16A (8) IEC C13-10A
Operational					
Nominal input voltage (Vac)	230 Vac (200/208/220/240 Selectable)				
Input voltage range	160-294 Vac				
Operating frequency	50/60 Hz auto sensing, tolerance 47-70Hz				
Nominal output voltage	230 Vac (200/208/220/240 Selectable)				
Output voltage range	230V +6%, -10%				
User interface					
LED	13 LED's: bar graph % load, battery charge level and various status and alarms				
Standard communication ports	RS232 and USB as standard on all models				
Optional	1 Mini Slot for Network Card-MS and Relay Card-MS connectivity cards				
Environmental					
Operating temperature	1250VA: 0°C – +40°C , 1750-3000VA: 0°C – +35°C				
Storage temperature	-15°C – +50°C				
Altitude	< 3000 m				
Audible noise at 1 metre	< 45 dBA				
Certification					
Markings	C-Tick, CE, TUV				
Safety	EN50091-1-1 and IEC60950				
EMC	EN 50091-2				

Battery Runtimes (in minutes)

Rack/Tower Models	**Internal Batteries**	**+1 EBM**	**+2 EBMs**	**+3 EBMs**	**+4 EBMs**
Half Load/ Full Load					
PW5130i1250-XL2U	15/5	58/30	100/55	144/80	185/104
PW5130i1750-XL2U	9/3	36/16	62/29	90/41	116/54
PW5130i2500-XL2U	11/3	55/23	100/42	150/63	206/85
PW5130i3000-XL2U	10/3	44/17	73/32	101/47	130/62
PW5130i3000-XL3U	10/3	44/17	73/32	101/47	130/6

Battery Backup Times in minutes Half Load/ Full Load.
Run time chart provides typical information. Battery runtimes are approximate and may vary with equipment, configuration, battery age, temperature, etc.

Eaton 5PX

Technology: **Series 5 (Line Interactive)**
Rating: **1500-3000VA**
Voltage: **230 Vac**
Configuration: **Rack-mount/Tower convertible**

The Eaton 5PX provides exceptional efficiency, manageability and metering capabilities for IT managers

Manageability

- The new graphical LCD display provides clear information on the UPS's status and measurements on a single screen (in seven languages). Enhanced configuration capabilities are also available with easy-to-use navigation keys
- For the first time in the industry the 5PX can meter energy consumption right down to the managed outlet groups. kWh values can be monitored using the LCD or Eaton's Intelligent Power® Software Suite
- Load segment control enables prioritised shutdowns of nonessential equipment to maximise battery runtime for critical devices. Load segment control can also be used to remotely reboot locked-up network equipment or to manage scheduled shutdowns and sequential start-ups
- The 5PX offers Serial and USB connectivity, plus an extra Mini Slot for an optional communication card (including SNMP/Web card or relay contact card). Eaton's Intelligent Power® Software Suite compatible with all major OS including virtualisation software such as VMware and Hyper-V is included with each UPS

Performance and Efficiency

- With an optimised electrical design, the 5PX can provide up to 99% efficiency, reducing cooling and utility costs
- With a power factor of 0.9, the 5PX delivers more real output power. It powers more servers than other UPSs with equivalent VA ratings and lower power factors. The 5PX is compatible with all modern IT equipment
- When operating in battery mode the 5PX provides a high quality output waveform for any sensitive equipment connected, such as active PFC (power factor corrected) servers

Availability and Flexibility

- The 5PX comes in a rack/tower convertible cabinet - pedestal and rail kits are included with all models at no extra charge
- Stronger, longer battery life: Eaton ABM® battery management technology uses an innovative three-stage charging technique that only recharges the battery when necessary, so the battery experiences less corrosion and service life is prolonged by up to 50%
- Batteries can be hot-swapped without ever having to shut down connected equipment. With an optional, hot-swap maintenance bypass module, you can even replace the entire UPS
- There is also the possibility to add more runtime with up to four external hot-swappable battery modules, able to run systems for hours if necessary. The additional battery modules are automatically recognised by the UPS

Ideal for protecting

- Servers
- Switches
- Routers
- Storage devices

Rack/Tower versatile

Intuitive LCD display for ease of configuration and management

Premier efficient & manageable protection for high-end IT applications

Eaton 5PX 3000i RT2U

1 Graphical LCD display :
- Clear information on UPS status and measurements
- Enhanced configuration capabilities
- Available in 7 languages

2 Panel for batteries replacement (Hot swappable)

3 1 USB port + 1 serial port + remote ON/OFF and remote power OFF inputs

4 External battery (EBM) connector

5 8 IEC 10A + 1 IEC 16A sockets with energy metering (including 4 programmable sockets)

6 Mini Slot for connectivity cards

Eaton 5PX Technical Specifications	1500	2000	2200	3000
Rating (VA/W)	**1500VA / 1350W**	**2000VA / 1800W**	**2200VA / 1980W**	**3000VA / 2700W**
Format	**RT2U (rack / tower 2U)**	**RT2U (rack / tower 2U)**	**RT2U (rack / tower 2U)**	**RT2U & RT3U**
Electrical characteristics				
Technology	Line-Interactive High Frequency (Pure Sinewave, Booster + Fader)			
Input voltage and frequency ranges	160V-294V (adjustable to 150V-294V) 47 to 70 Hz (50 Hz system),			
without using batteries	56.5 to 70 Hz (60 Hz system), 40 Hz in low-sensitivity mode			
Output voltage and frequency	230 V (+6/-10 %) (Adjustable to 200V / 208V / 220V / 230V / 240V), 50/60 Hz +/- 0.1 % (autosensing)			
Connections				
Input	1 IEC C14 (10 A) socket	1 IEC C14 (10 A) socket	1 IEC C20 (16 A) socket	1 IEC C20 (16 A) socket
Outputs	8 IEC C13 (10 A)	8 IEC C13 (10 A) sockets	8 IEC C13 (10 A) sockets, 1 IEC C19 (16 A) socket	8 IEC C13 (10 A) sockets, 1 IEC C19 (16 A) socket
Remotely controlled sockets	2 groups of 2 x IEC C13 (10 A)			
Additional outputs with Hot Swap MBP	4 AUS 10A + 1 IEC 16A sockets or 6 IEC 10 A sockets or terminal blocks (HW version)			
Additional outputs with FlexPDU	6 AUS 10A + 1 IEC 16A sockets or 12 IEC 10 A sockets			
Batteries Typical backup times for 50 and 70% load*				
5PX	19/11 mins	16/8 mins	15/8 mins	14/9 mins
5PX + 1 EBM	90/54 mins	66/39 mins	60/35 mins	66/38 mins
5PX + 4 EBM	285/180 mins	231/138 mins	210/125 mins	213/131 mins
Battery management	ABM® & Temperature compensated charging method (user selectable), Automatic battery test, deep discharge protection, automatic recognition of external battery units			
Interfaces				
Communication ports	1 USB port + 1 RS232 serial port and relay contacts (USB and RS232 ports cannot be used simultaneously) + 1 mini terminal block for remote ON/OFF and Remote Power Off			
Communications card slots	1 Mini Slot for Network Card-MS, Relay Card-MS and Network & Modbus Card-MS connectivity cards			
Operating conditions, standards and approvals				
Operating temperature	0 to 40°C			
Noise Level	< 45 dBA	< 45 dBA	< 45 dBA	< 50 dBA
Performance - Safety - EMC	IEC/EN 62040-1-1 (Safety), IEC/EN 62040-2 (EMC), IEC/EN 62040-3 (Performance), C-Tick			
Approvals	CE, CB report, TÜV			
Dimensions W x D x H / Weight				
UPS Dimensions (mm)	441 x 522 x 86.2 (2U) mm	441 x 522 x 86.2 (2U) mm	441 x 522 x 86.2 (2U) mm	441 x 647 x 86.2 (RT2U) mm
				441 x 497 x 130.7 (RT3U) mm
UPS Weight (kg)	27.6 kg	28.5 kg	28.5 kg	38.08 (RT2U), 37.33 (RT3U)
Dimensions of EBM	same as UPS			
Weight of the EBM	32.8 kg	32.8 kg	32.8 kg	46.4kg (RT2U), 44.4kg (RT3U)
Customer Service & Support				
Warranty	3 years on electronics, 2 years on batteries			

* Runtimes are shown at 0.7 power factor. Backup times are approximate and may vary with equipment, configuration, battery age, temperature, etc.

Part Numbers	1500	2000	2200	3000 (RT3U)	3000 (RT2U)
UPS	5PX1500iRT	5PX2000iRT	5PX2200iRT2UAU	5PX3000iRT3UAU	5PX3000iRT2UAU
EBM	5PXEBM48RT	5PXEBM48RT	5PXEBM48RT	5PXEBM72RT3U	5PXEBM72RT2U

Eaton E Series DX

Technology: **Series 9 (Double Conversion On Line)**
Rating: **1kVA – 20kVA**
Voltage: **230/240V**
Backup Time: **Typical 5 min**
Configuration: **Tower**

The E Series® DX UPS double-conversion UPS affordably protects mission critical applications from downtime, data loss and corruption. The double-conversion architecture incorporates rectifier and inverter stages to completely isolate the output power from all input anomalies. By adapting to a wide range of input voltages, the E Series DX avoids battery usage during minor power fluctuations, saving its capacity for times when utility power is completely lost.

Ideal for protecting

- Computers and Peripherals
- POS Equipment
- PLC Systems
- Security Systems

Features

- Double conversion topology assures maximum reliability
- Wide input voltage range appropriate for the harshest electrical environments
- Tested for generator compatibility
- Standard Models for fixed-run time performance
- XL Models for customised, long run-time applications, with fast recharging
- Automatic bypass for fault-tolerance
- Built in maintenance bypass on 6-20kVA models
- Optional SNMP communications provides remote network based monitoring
- Cold start on battery power allows portable power
- WINPOWER software monitors power conditions
- Intuitive front-panel LED user interface for consistent status indication
- 6-20kVA models are parallelable for increased capacity and/or redundancy

Options

- SNMP/Web Card
- Relay Card
- Modbus Card
- External Maintenance Bypass Switch
- Extended Battery Cabinets

3kVA rear panel

Eaton E Series DX Technical specifications

Capacity (VA/Watts)	1000VA/700W	2000VA/1400W	3000VA/2100W	6kVA/4.2kW	10kVA/7kW	10kVA/7kW	15kVA/10.5kW	20kVA/14kW
Standard Model (Internal Battery)	EDX1000HA	EDX2000HA	EDX3000HA	EDX6000HA	EDX10000HA	N/A	N/A	N/A
XL Model (Large Charger + External Battery)	N/A	N/A	EDX3000HXL	EDX6000HXL	EDX10KHXL	EDX10KHXL31	EDX15KHXL31	EDX20KHXL31
Input / Output								
Nominal Input Voltage	220/230/240Vac 1 Phase (240V preset on "A" models, 230V on others)					380/400/415Vac 3 phase		
Input Voltage Window @ full load	160±5V – 296±5V at >80% load			176 - 276Vac (at full load)				
Input Power Factor	>0.95			≥0.98		≥0.95		
Frequency & Frequency Range	50/60Hz; Tolerance (46/56 ±0.5) Hz Low, (54/64±0.5) Hz High							
Nominal Output Voltage	220/230/240V (240V preset on "A" models, 230V on others)							
Output Voltage on Battery	220/230/240V (240V preset on "A" models, 230V on others)							
Overload performance	108% ±5% to 150% ±5% for 30 secs			105-130% for 10 mins, ≥130% for 1 sec, up to 130% continuous on bypass				
Input Connection	C14 10A	C14 10A	C20 16A	Hard Wired				
Output receptacles	(4) IEC C13 10A	(6) IEC C13 10A	(4) IEC C13 10A & Hard Wired	Hard Wired				
Battery								
Battery Quantity/Type (Standard)	3 x 12V (7.2Ah)	8 x 12V (7.2Ah)	8 x 12V (7.2Ah)	20 x 12V (7.2Ah)	20 x 12V (9Ah)	N/A		
Battery Quantity (XL)	3 x 12V	8 x 12V	8 x 12V	20 x 12V				
Re-charge time to 90% capacity	8 hours				<7 hours XL Models dependant on battery capacity			
Start-On-Battery	UPS can be started without being connected to AC utility power							
User Interface								
Visual	LED mimic diagram with 4 x LEDs for Utility, Bypass, Inverter & Battery Status, 5 LED Bar Graph for Load and Battery Capacity, Fault LED							
Control	Two buttons for On/Off and Test/Alarm Silence							
Communications / management								
Power Management Software	WinPower power management software, included on CD							
Connection Type	Standard RS232 (DB9)							
Connectivity slot	Intelligent Slot for optional SNMP card / AS 400 Relay Card / Modbus Card							
Environment								
Operating Temperature	0°C ~ 40°C							
Humidity	5-95% Non Condensing							
Noise Level @ 1m	<50dBA	<50dBA	<50dBA	<55dBA				
Standards	IEC61000-4-2 Level 4, IEC61000-4-3 Level 3, IEC61000-4-4 Level 4, IEC61000-4-4 Level 4, IEC62040-1, EN55022 Class B, CE Mark							
Dimensions & Weights W x H x D mm								
(Standard Models)	145 x 220 x 400	192 x 340 x 460	192 x 340 x 460	260 x 717 x 570	260 x 717 x 570	-	-	-
(XL Models)	-	-	192 x 340 x 460	260 x 717 x 570	260 x 717 x 570	260 x 717 x 570	260 x 717 x 570	260 x 717 x 570
Weight (Standard/ XL) kg	14	34.5	35.5 / 16	90 / 35	93 / 38	39	55	55

E Series DX internal battery models runtime chart

	EDX1000HA	EDX2000HA	EDX3000HA	EDX6000HA	EDX10000HA
Battery Runtime 1/2 load	14 min	31 min	16 min	20 min	16 min
Battery Runtime Full load	7 min	11 min	>5 min	8 min	>5 min

Battery backup times are approximate and may vary with equipment, configuration, battery age, temperature, etc.

Eaton EX

Eaton EX Rack/Tower versatility

Technology: **Series 9, (Double Conversion On Line)**
Rating: **1000 - 3000VA**
Voltage: **208–240Vac**
Configuration: **Rack-mount/Tower convertible**

Maximum availability

- **Topology:** double conversion on-line UPS with automatic by-pass and power factor correction
- **Powershare:** the Eaton EX output sockets are individually controlled to provide load-shedding to maximise the backup time and provide remote reboot and sequential start-up as standard
- **Continuous power supply:** Hot swappable batteries. The HotSwap MBP (Maintenance By-Pass) module allows the UPS to be replaced without interrupting the power supply
- **Long backup times:** 1 to 4 EXB battery units can be added to the Eaton EX. The Eaton EX 3000XL has a built-in super charger for extra long backup times

Minimum total cost of ownership

- **Easy operation:** the LCD gives you access to a wide range of measurements and set-up menus
- **Remote supervision:** the Eaton Intelligent Power® software suite offers a wide range of communication option including: SNMP and HTML, ModBus/JBus and relay outputs

Total flexibility

Eaton EX has unmatched Flexibility.

- **Format:** EX 1000 to 1500 are available in RT2U convertible rack/ tower format (compatible with short-depth rack). EX 2200 & 3000 are available in RT2U format (optimised for rack mounting) or RT3U (for tower or short-depth racks)
- **Connections:** with FlexPDU and HotSwap MBP, the RT2U and RT3U models can be connected by sockets or terminal blocks. They can be installed as required, on the side or on top of the unit
- **Compatible with high power factor loads:** Eaton EX is rated for 0.9 power factor (1000 VA/900 W, 1500 VA/1350 W, 2200 VA/1980 W and 3000 VA/2700 W)
- **Communication:** the EX includes both serial and USB ports, plus remote On/Off connector and an extra slot for optional communication cards

Ideal protection for:

- Servers, data storage and network equipment
- Telephony - VoIP
- Medical equipment - Industrial processes

1 LCD Multilingual display
- 6 languages,
- displays measurements,
- displays alarms,
- access to control and set-up menus.

2 Panel for batteries replacement (Hot swappable)

Eaton EX

3 1 x USB port + 1 x serial port + remote ON/OFF and emergency stop inputs.

4 EXB battery unit connector.

5 EXB units recognised automatically.

6 8 x IEC 10A sockets, including 4 x Powershare programmable sockets and 1 x IEC 16A socket.

7 Mini Slot connectivity card slot.

8 Mountings for HotSwap MBP and FlexPDU.

Eaton EX Technical Specifications	1000 RT2U	1500 RT2U	2200	3000 - 3000 XL
Rating (VA/W)	1000 VA / 900 W (1)	1500 VA / 1350 W (1)	2200 VA / 1980 W	3000 VA / 2700 W (1)
Format	RT2U (tower/rack 2U)		RT2U (tower / rack 2U) and RT3U (tower / rack 3U)	
Electrical characteristics				
Architecture	On-line double conversion with automatic by-pass and power factor correction			
Input voltage and frequency ranges without using batteries	100/120/140/160 V(2) to 284V - 40 to 70 Hz		100/120/160/184 V(2) to 284V - 40 to 70 Hz	
Output voltage and frequency	230 V (adjustable to 200/208/220/240/250 V), 50/60 Hz auto-select or frequency converter mode (3)		230 V (adjustable to 200/208/220/240 V), 50/60 Hz auto-select or frequency converter mode	
Connections				
Input	1 x IEC C14 (10A) socket		1 x IEC C20 (16A) or terminal block on HotSwap MBP HW (Hard-Wired)	
Outputs	6 x IEC C13 (10A) sockets		8 x IEC C13 (10A) sockets + 1 x IEC C19 (16A) socket	
Remotely controlled Powershare sockets	2 independent groups: 2 + 1 x IEC C13 (10A) sockets		2 groups of 2 x IEC C13 (10A) on Eaton EX	
Additional outputs with HotSwap MBP	4 x Aust 3 pin or 6 x IEC 10A sockets or terminal blocks (HW version)			
Additional outputs with FlexPDU	6 x Aust 3 pin or 12 x IEC 10A sockets			
Battery				
Typical backup times for 50 and 70% load (6) except for Eaton EX 3000 XL (5)				
EX	18 min / 12 min	13 min / 9 min	17 min / 12 min	15 min / 10 min
EX + 1 EXB	75 min / 50 min	50 min / 35 min	85 min / 60 min	60 min / 40 min
EX + 4 EXB	250 min / 200 min	180 min / 120 min	285 min / 200 min	190 min / 150 min
Battery management	Automatic weekly test (period adjustable using LCD display or in software supplied), automatic recognition of external battery units => continuous maximisation of backup time + deep discharge protection			
Interfaces				
Indicators and display	3 x LEDS + adjustable multilingual display: display of measurements, access to control and set-up menus			
Communication ports	1 x USB port + 1 x RS232 serial port and relay contacts (4) + 1 x mini terminal block for remote ON/OFF and emergency stop			
Communications card slots	1 x Mini Slot for Network Card-MS, Relay Card-MS or Network & Modbus Card-MS connectivity cards			
Operating conditions, standards and approvals				
Operating temperature noise level	0°C to 40°C continuous, 45 dBA			
Performance - Safety - EMC	IEC/EN 62 040-3 (VFI-SS-113), IEC/EN 62 040-1-1, IEC/EN 60 950-1 (RD), IEC/EN 62 040-2 C1 Class			
Approvals	CE, TüV GS, CB report, cTüV-US		CE, TüV, CB Report, UL	CE, TüV, CB Report, UL
Dimensions (H x W x D) / Weight				
EX RT3U	-	-	131 x 440 x 490 mm (7) / 30 kg (3000 XL = 18 kg)	
EX RT2U	86.5 x 438 x 483 mm / 25kg	86.5 x 438 x 483 mm / 27kg	86 x 440 x 640 mm / 31 kg	
EX EXB RT3U (excludes rack kit)	-		131 x 440 x 490 mm (7) / 42kg	
EX EXB RT2U	86.5 x 438 x 483 mm / 24.5 kg		-	-
Customer Service & Support				
2 years warranty	Standard product exchange, including the battery			
Warranty+	Optional 3-years warranty (depending on the country please visit www.eaton.com/powerquality)			

1: Maximum rating with EXB battery units: Eaton EX 1000 = 800 W, Eaton EX 1500 =1200 W and Eaton EX 3000=2400W. 2: Lower limits for <20%, <33%, <66%, >=66% of nominal power (VA). For active output power greater than 0.7 and 0.8 nominal rating, the lower limit is 180V and 190V respectively. 3: Derated by 15% when used as a frequency converter. 4: USB and RS232 serial ports cannot be used simultaneously. 5: Except Eaton EX 3000 XL: UPS with high speed charger, without built-in batteries, for custom configurations: ask us for details. 6: Runtimes are shown at 0.7 power factor. Backup times are approximate and may vary with equipment, configuration, battery age, temperature, etc. 7: compatible with 600 mm deep rack.

Part Numbers	**1000**	**1500**	2200	3000
EX RT3U (excludes rack kit)	-	-	M68400	M68402 - XL: M68404
EX RT2U (includes rack kit)	M68182	M68184	M68401	M68403
EX EXB	M68186 (includes rack kit)	M68186 (includes rack kit)	M68405	M68405
EX Rack Kit 2U/3U	-	-	M68441	M68441

Eaton 9130 Tower

Technology: **Series 9, (Double Conversion On Line)**
Rating: **700 - 6000VA**
Voltage: **208–240Vac**
Configuration: **Tower**

The Eaton 9130 UPS, resolves utility power problems and delivers superior power protection for IT and networking equipment, medical systems, manufacturing process control — or anywhere critical equipment and applications require clean, continuous power.

Double-conversion design for superior power protection The 9130 is constantly monitoring power conditions—regulating both voltage and frequency. Even when presented with the most severe power problems, this UPS's output remains within two percent of nominal voltage. With a wide input voltage range, the 9130 does not depend on batteries to smooth out minor power fluctuations. Batteries are conserved for those times when utility power is highly unstable or completely out. If an outage occurs, the 9130 transfers to battery with zero interruption in power, making this an ideal UPS for sensitive and critical equipment.

More real power for less cost. High 0.9 output power factor enables the 9130 to provide its full power capability to modern IT equipment that may have a wide range of leading and lagging power factors. With a 0.99 input power factor, this UPS avoids the disturbances that some energy converters tend to cause.

Typical applications:

- Servers, networking gear
- Telecommunications, VoIP, security systems
- Medical systems
- Diagnostics and medical screening
- Patient record archives
- Manufacturing systems
- Chip fabrication
- Pharmaceutical production
- Chemical processing

Product highlights:

- Offers premium performance with a 0.9 power factor and 95% efficiency
- Increases battery service life and system uptime with ABM® battery charging technology
- Enables prolonged runtime of essential equipment during power outages by allowing for orderly, remote shutdown of non-critical systems or processes
- Ensures data and system integrity with Intelligent Power® management software

Options:

- Extended Battery Modules for extended run time and Extended Battery Cabinets for even longer run time
- External Battery Charger Unit for fast charging of long run time Extended Battery Cabinets
- Hard wiring kits for fixed installations
- Interlocked Maintenance Bypass Switches
- Mini Slot connectivity cards
- Extended warranty plans

Eaton 9130 Tower Technical Specifications

Rating	700VA	1000VA	1500VA	2000VA	3000VA	6000VA
Part number	PW9130G700T-XLAU	PW9130G1000T-XLAU	PW9130G1500T-XLAU	PW9130G2000T-XLAU	PW9130G3000T-XLAU	PW9130G6000T-XLAU
Capacity (VA/Watts)	700/630	1000/900	1500/1350	2000/1800	3000/2700	6000/5400
Dimensions WxDxH (mm)	160x355x250	160x383x250	160x435x250	214x410x345	214x410x345	242x542x575
Weight (kg)	12.2	14.5	19.0	34.5	34.5	75.5
Input connection	IEC C14-10A	IEC C14-10A	IEC C14-10A	IEC C14-10A	IEC C20-16A	Hard Wired
Output connection	(4) AUST 10A	(4) AUST 10A	(4) AUST 10A	(5) AUST 10A (1) IEC C13-10A	(5) AUST 15A (1) IEC C19-16A	Hard Wired
Operational						
Nominal input voltage (Vac)	240Vac (200/208/220/230 selectable)					
Input voltage range	700-1500VA: 120/140/160-276 Vac (at 33%/66%/100% 0.7pf load) 2000-3000VA: 140/160/180-276 Vac (at 33%/66%/100% 0.7pf load) 6000VA: 120/140/160/180-276V (25%/50%/75%//100% 0.9pf Load)					
Operating frequency	50/60 Hz auto sensing, tolerance 40-70Hz					
Input power factor	0.99					
Nominal output voltage	240Vac (200/208/220/230 selectable)					
Output voltage regulation	+/-2%					
Overload capacity	700-3000VA: Up to 130 % for 12 seconds, 130-150% for 2 sec 6000VA: Up to 130 % for 120 seconds, 130-150% for 30 sec					
Efficiency	700-2000VA: 90% online, 93% High Efficiency Mode 3000VA: 91% online, 93% High Efficiency Mode 6000VA: 95% online, 98% High Efficiency Mode					
User interface						
LCD display	LCD display showing both UPS meters and UPS settings					
LED	Four LEDs; UPS On, UPS on Battery, UPS on bypass, Alarm					
Standard communication ports	RS232 and USB as standard on all models					
Optional	1 Mini Slot for Network Card-MS, Relay Card-MS or Network & Modbus Card-MS connectivity cards					
Environmental						
Operating temperature	0°C – +40°C					
Storage temperature	-15°C – +40°C					
Altitude	< 3000 m					
Audible noise at 1 metre	700-3000VA: < 52 dBA, 6000VA: < 55 dBA					
Certification						
Markings	C-Tick, CE, GS					
EMC	EN62040-2 Emissions, category C1; Immunity, category C2					

Battery Runtimes (in minutes) Standard Extended Battery Modules

Load (VA/Watts)	**% 0f Load**	**Internal Batteries**	**w/1 EBM**	**w/2 EBM**	**w/3 EBM**	**w/4 EBM**
PW9130G700T						
700/630	100%	5	N/A	N/A	N/A	N/A
350/315	50%	14	N/A	N/A	N/A	N/A
PW9130G1000T-XLAU						
1000/900	100%	6	31	51	82	100
500/450	50%	19	68	111	192	246
PW9130G1500T-XLAU						
1500/1350	100%	5	24	46	69	90
750/675	50%	14	61	112	172	221
PW9130G2000T-XLAU						
2000/1800	100%	11	44	79	115	162
1000/900	50%	28	96	168	258	336
PW9130G3000T-XLAU						
3000/2700	100%	6	21	51	66	93
1500/1350	50%	15	60	100	169	215
PW9130G6000T-XLAU						
6000/5400	100%	6	33	64	96	130
3000/2700	50%	19	78	148	211	266

Run time chart provides typical information. Battery runtimes are approximate and may vary with equipment, configuration, battery age, temperature, etc.
Longer run times available with Extended Battery Cabinets. Please consult your sales representative for information.

Eaton 9130 Rack

Technology: **Series 9, (Double Conversion On Line)**
Rating: **1000 - 3000VA**
Voltage: **208–240Vac**
Configuration: **Rack-mount**

The newest Eaton addition, the Eaton 9130 UPS, resolves utility power problems and delivers superior power protection for IT and networking equipment, medical systems, manufacturing process control — or anywhere critical equipment and applications require clean, continuous power.

Double-conversion design for superior power protection The 9130 is constantly monitoring power conditions—regulating both voltage and frequency.

Even when presented with the most severe power problems, this UPS's output remains within three percent of nominal voltage. With a wide input voltage range, the 9130 does not depend on batteries to smooth out minor power fluctuations. Batteries are conserved for those times when utility power is highly unstable or completely out. If an outage occurs, the 9130 transfers to battery with zero interruption in power, making this an ideal UPS for sensitive and critical equipment.

More real power for less cost. High 0.9 output power factor enables the 9130 to provide its full power capability to modern IT equipment that may have a wide range of leading and lagging power factors.

With a 0.99 input power factor, this UPS avoids the disturbances that some energy converters tend to cause.

Typical applications:

- Servers, networking gear
- Telecommunications, VoIP, security systems
- Medical systems
- Diagnostics and medical screening
- Patient record archives
- Manufacturing systems
- Chip fabrication
- Pharmaceutical production
- Chemical processing

Product highlights:

- Offers premium performance with a 0.9 power factor and 95% efficiency
- Increases battery service life and system uptime with ABM® battery charging technology
- Enables prolonged runtime of essential equipment during power outages by allowing for orderly, remote shutdown of non-critical systems or processes
- Ensures data and system integrity with Intelligent Power® software

Options:

- Extended Battery Modules for longer run times
- Mini Slot connectivity cards
- Extended warranty plans

Eaton 9130 Rack Technical Specifications

Rating	1000VA	1500VA	2000VA	3000VA
Part number	PW9130G1000R-XL2UAU	PW9130G1500R-XL2UAU	PW9130G2000R-XL2UAU	PW9130G3000R-XL2UAU
Capacity (VA/Watts)	1000/900	1500/1350	2000/1800	3000/2700
Dimensions WxDxH(mm)	438x438x86.5 (2U)	438x438x86.5 (2U)	438x600x86.5 (2U)	438x600x86.5 (2U)
Weight (kg)	16.0	19.5	29.0	29.5
Input connection	IEC C14 10A	IEC C14 10A	IEC C14 10A	IEC C20 16A
Output connection	(2) AUST 10A (4) IEC C13-10A	(2) AUST 10A (4) IEC C13-10A	(4) AUST 10A (4) IEC C13-10A	(4) IEC C13-10A (3) AUST 10A (1) IEC C19-15A
Operational				
Nominal input voltage (Vac)	240Vac (200/208/220/230 selectable)			
Input voltage range	700-1500VA: 120/140/160-276 Vac (at 33%/66%/100% 0.7pf load) 2000-3000VA: 140/160/180-276 Vac (at 33%/66%/100% 0.7pf load)			
Operating frequency	50/60 Hz auto sensing, tolerance 40-70Hz			
Input power factor	0.99			
Nominal output voltage	240Vac (200/208/220/230 selectable)			
Output voltage regulation	+/-2%			
Overload capacity	Up to 130 % for 10 seconds, 130-150% for 2 sec			
Efficiency	700-2000VA: 90% online, 93% High Efficiency Mode 3000VA: 91% online, 93% High Efficiency Mode			
User interface				
LCD display	LCD display showing both UPS meters and UPS settings			
LED	Four LEDs; UPS On, UPS on Battery, UPS on bypass, Alarm			
Standard communication ports	RS232 and USB as standard on all models			
Optional	1 Mini Slot for Network Card-MS, Relay Card-MS or Network & Modbus Card-MS connectivity cards			
Environmental				
Operating temperature	0ºC – +40ºC			
Storage temperature	-15ºC – +40ºC			
Altitude	< 3000 m			
Audible noise at 1 metre	< 52 dBA			
Certification				
Markings	C-Tick, CE, GS			
EMC	EN62040-2 Emisions, category C1; Immunity, category C2			

Battery Runtimes (in minutes) Standard Extended Battery Modules

Load (VA/Watts)	**% 0f Load**	**Internal Batteries**	**w/1 EBM**	**w/2 EBM**	**w/3 EBM**	**w/4 EBM**
PW9130G1000R-XL2UAU						
1000/900	100%	6	31	51	82	100
500/450	50%	19	68	111	192	246
PW9130G1500R-XL2UAU						
1500/1350	100%	5	24	46	69	90
750/675	50%	14	61	112	172	221
PW9130G2000R-XL2UAU						
2000/1800	100%	6	33	59	88	119
1000/900	50%	17	72	129	183	260
PW9130G3000R-XL2UAU						
3000/2700	100%	3	18	34	53	69
1500/1350	50%	9	45	84	122	165

Eaton 9SX

Technology: **Series 9 (Double Conversion On Line)**
Rating: **5-6kVA**
Voltage: **230Vac (200-240Vac)**
Configuration: **Rack-mount/Tower convertible**

Performance and Efficiency

- Double conversion topology. The Eaton 9SX constantly monitors power conditions and regulates voltage and frequency.
- With up to 94% efficiency in online double conversion mode the 9SX provides the highest efficiency level in its class to reduce energy & cooling costs.
- With a 0.9 power factor the 9SX delivers 28% more power than UPS in its class. It powers more servers than other UPSs with equivalent VA ratings and lower power factors.

Availability and Flexibility

- The internal bypass allows service continuity in case of internal fault. Batteries are hot-swappable from the front panel without powering down critical systems.
- With its rack/tower versatile form factor the 9SX can be installed in any environment (rack kit provided as standard on RT versions).
- Stronger, longer battery life: Eaton ABM® battery management technology uses an innovative three-stage charging technique that extends battery life by up to 50%.
- More runtime can be added with up to 12 external hot-swappable battery modules, able to run systems for hours if necessary. The additional battery modules are automatically recognised by the UPS.

Manageability

- The new graphical LCD provides clear information on the UPS's status and measurements on a single screen (in seven languages). LCD display position can be adjusted to offer the best viewable angle for tower and rack usage.
- The 9SX can meter energy consumption. kWh values can be monitored using the LCD or Eaton's Intelligent Power® Software Suite.
- Load segment control enables prioritised shutdowns of nonessential equipment to maximise battery runtime for critical devices. It can also be used to remotely reboot locked-up equipment or to manage scheduled shutdowns and sequential start-ups.
- The 9SX offers Serial, USB and relay (4 dry contacts) connectivity, plus an extra slot for an optional card (Modbus, Network or Relay). 9SX also provides Remote Power off function. Eaton's Intelligent Power® Software Suite is included with each UPS.

Product highlights:

- Provides clean, continuous power to protect critical equipment and applications from power-related downtime, data loss, corruption, and process interruption
- Saves valuable rack space by delivering up to 6000VA/5400W in only 3U
- Provides deployment versatility by offering rack and tower installation options with rail kits and pedestal provided
- Increases availability with hot-swappable batteries and power module and an optional external maintenance bypass
- Offers extended battery runtime options to power essential systems for more than an hour during an outage
- Simplifies UPS monitoring and management with a bright LCD user interface and Intelligent Power® Software Suite

Options:

- Mini Slot connectivity cards
- Extended battery modules, 3U high
- Extended warranty plans

Technical Specifications	5kVA	6kVA
Rating (kVA/kW)	**5kVA/4.5kW**	**6kVA/5.4kW**
Electrical Characteristics		
Technology	On-line double conversion with Power Factor Correction (PFC) system	
Nominal voltage	200/208/220/230/240V	
Input voltage range	176-276V without derating (up to 100–276V with derating)	
Output voltage/THDU	200/208/220/230/240V +/– 1%; THDU <2%	
Input frequency range/THDI	40-70Hz, 50/60Hz autoselection, frequency converter as standard, THDI < 5%	
Efficiency		
Crest factor/short circuit current	3:1/90A	3:1/90A
Overload capacity	102–110% : 120s, 110–125%: 60s, 125–150%: 10s, >150%: 500ms	
Connections		
Input	Terminal block (up to 10 mm²)	
Outputs	Terminal block + 2 controlled groups of 4 IEC C13 (10A) + 2 IEC C19 (16A)	
Batteries		
Typical backup times at 50 and 70% load*		
9SX	13/10 min	11/8 min
9SX + 1 EBM	60/40 min	48/34 min
9SX + 4 EBM	220/150 min	170/120 min
Battery management	ABM® and Temperature compensated charging method (user selectable), automatic battery test, deep discharge protection, automatic recognition of external battery units.	
Communication		
Communication ports	1 USB port, 1 RS232 serial port (USB and RS232 ports cannot be used simultaneously), 4 dry contacts (DB9), 1 mini terminal block for remote On/Off and 1 for remote power Off.	
Communication slot	1 slot for Network-MS card, ModBus-MS, Relay-MS, or Industrial Relay cards.	
Operating conditions, standards and approvals		
Operating temperature	0 to 40°C continuous	
Noise level	<45dB	<45dB
Safety	IEC/EN 62040-1, UL 1778, CSA 22.2	
EMC, performance	IEC/EN 62040 -2 , FCC Class A, IEC/EN 62040-3 (Performance)	
Approvals	CE, CB report (TUV), UL, C-Tick	
Dimensions H x W x D/Weight		
UPS	440(19'')*130(3U)*685mm/48kg	440(19'')*130(3U)*685mm/48kg
EBM	440(19'')*130(3U)*645mm/68kg	440(19'')*130(3U)*645mm/68kg
Customer Service and Support		
Warranty	2 years warranty	

* Runtimes are shown at 0.7 power factor. Backup times are approximate and may vary with equipment, configuration, battery age, temperature, etc

Part Numbers	9SX 5kVA	9SX 6kVA
UPS	–	–
UPS with Rack Kit	9SX5KiRT	9SX6KiRT
EBM	–	–
EBM with Rack Kit	9SXEBM180RT	9SXEBM180RT
Power Module	–	–
HotSwap Maintenance ByPass	MBP6Ki	MBP6Ki
Transformer Module	TFMR11Ki	TFMR11Ki
Supercharger with Rack Kit	–	–
1.8m Battery Connection Cable	EBMCBL180	EBMCBL180
Battery Integration System	BINTSYS	BINTSYS

Eaton 9PX

Technology: **Series 9 (Double Conversion On line)**
Rating: **6-11 kVA**
Voltage: **1ph/1ph in/out: 230 Vac (200-250 Vac)**
3ph/1ph in/out: 380-415/220-240 Vac
Backup time: **5-240 minutes**
Configuration: **Rack-mount/Tower Convertible**

Performance and Efficiency

- Double conversion topology. The Eaton 9PX constantly monitors power conditions and regulates voltage and frequency.
- With up to 95% efficiency in online double conversion mode and 98% in high-efficiency mode the 9PX provides the highest efficiency level in its class to reduce energy & cooling costs.
- With a 0.9 power factor the 9PX delivers 28% more power than other UPS in it's class. It powers more servers than other UPSs with equivalent VA ratings and lower power factors.
- With a RT (Rack/tower) versatile form factor the 9PX is the most compact solution in its class delivering up to 5.4kW in only 3U and 10kW in only 6U.

Manageability

- The new graphical LCD provides clear information on the UPS's status and measurements on a single screen (in seven languages). LCD display position can be adjusted to offer the best viewable angle for tower and rack usage.
- The 9PX can meter energy consumption. kWh values can be monitored using the LCD or Eaton's Intelligent Power® Software Suite.
- Load segment control enables prioritised shutdowns of non-essential equipment to maximise battery runtime for critical devices. It can also be used to remotely reboot locked-up network equipment or to manage scheduled shutdowns and sequential start-ups.
- The 9PX offers Serial, USB and relay connectivity, plus an extra slot for an optional card (Ethernet Network, Voltage Free Contact Relay, or Modbus & Network). Eaton's Intelligent Power® Software Suite compatible with all major OS including virtualisation software such as VMware and Hyper-V is included with each UPS.

Availability and Flexibility

- The internal bypass allows service continuity in case of internal fault, a Maintenance Bypass Module is also available for easy UPS replacement without interruption to the critical load" for easy replacement of the UPS without powering down critical systems.
- The Eaton 9PX can be paralleled to achieve twice the power of unitary product using Eaton's proprietary Hot Sync® technology.
- Stronger, longer battery life: Eaton ABM® battery management technology uses an innovative three-stage charging technique that extends battery life by up to 50%.
- More run time can be added with up to 12 external hot swappable battery modules, able to run systems for hours if necessary. The additional battery modules are automatically recognised by the UPS.

Technical Specifications	6kVA	8kVA	11kVA
Rating (kVA/kW)	**6kVA/5.4kW**	**8kVA/7.2kW**	**11kVA/10kW**
Electrical Characteristics			
Technology	On-line double conversion with Power Factor Correction (PFC) system		
Input voltage range	1:1 models: 176-276V without derating (up to 100–276V with derating)		
	3:1 models: 305V-480V without derating (up to 175V-480V with derating)		
Output voltage/THDU	200/208/220/230/240V +/– 1%; THDU <2% (1:1 & 3:1)	200/208/220/230/240/250V +/– 1%; THDU <2% (1:1 & 3:1)	
Input frequency range/THDI	40-70Hz, 50/60Hz autoselection, frequency converter as standard, THDI < 5%		
Efficiency	Up to 94% in Online mode, 98% in Hi-Efficiency mode	Up to 95% in Online mode, 98% in Hi-Efficiency mode	
Crest factor/short circuit current	3:1/90A	3:1/120A	3:1/150A
Overload capacity	102–110% : 120s, 110–125%: 60s, 125–150%: 10s, >150%: 500ms	102–110% : 120s, 110–125%: 60s, 125–150%: 10s, >150%: 900ms	
Connections			
Input 1:1 Models	Terminal block (up to 10 mm²)	Terminal block (up to 16mm²)	
Input 3:1 Models	Terminal block (up to 16mm²)		
Output 1:1 Models	Terminal block + 2 controlled groups of 4 IEC C13 (10A) + 2 IEC C19 (16A)	Terminal block	
Output 3:1 Models	Terminal block		
Output with optional HotSwap Maintenance Bypass 1:1 Models	Terminal block + 3 IEC C13 (10A) + 2 IEC C19 (16A)	Terminal block + 4 IEC C19 (16A)	
Output with optional HotSwap Maintenance Bypass 3:1 Models	Terminal block + 4 IEC C19 (16A)		
Batteries (1:1 Models)			
Typical backup times at 50 and 70% load*			
9PX (8 & 11 kVA = 1 Power Module + 1 EBM)	11/8 min	20/15 min	13/9min
9PX + 1 EBM (8 & 11 kVA = Total 2 EBM)	48/34 min	48/32 min	32/21 min
9PX + 4 EBM (8 & 11 kVA = Total 5 EBM)	170/120 min	140/100 min	100/70 min
Batteries (3:1 Models)			
Typical backup times at 50 and 70% load*			
9PX (6, 8 & 11kVA = 1 Power Module + 1 EBM)	30/20min	20/15 min	13/9min
9PX + 1EBM (total 2 EBM)	70/45min	48/32 min	32/21 min
9PX + 4 EBM (total 5 EBM)	210/140 min	140/100 min	100/70 min
Battery management	ABM® and temperature compensated charging method (user selectable), automatic battery test, deep discharge protection, automatic recognition of external battery units.		
Communication			
Communication ports	1 USB port, 1 RS232 serial port (USB and RS232 ports cannot be used simultaneously), 4 dry contacts (DB9), 1 mini terminal block for remote On/Off and 1 for Remote Power Off, 1 DB15 for parallel operation.		
Communication slot	1 slot for Network-MS card, ModBus-MS or Relay-MS cards.		
Operating conditions, standards and approvals			
Operating temperature	0 to 40°C continuous		
Noise level	<45dB (1:1) / 48dB(3:1)	<48dB (1:1 & 3:1)	<50dB (1:1 & 3:1)
Safety	IEC/EN 62040-1, UL 1778 (1:1), CSA 22.2		
EMC, performance	IEC/EN 62040 -2 , FCC Class A (1:1), IEC/EN 62040-3 (Performance)		
Approvals	CE, CB report (TUV), UL (1:1), C-Tick		
Dimensions H x W x D/Weight			
UPS	440(19")*130(3U)*685mm/48kg (1:1) 440(19")*260(6U)*700mm/88kg (3:1)	440(19")*260(6U)*700mm/84kg (1:1) 440(19")*260(6U)*700mm/88kg (3:1)	440(19")*260(6U)*700mm/86kg (1:1) 440(19")*260(6U)*700mm/88kg (3:1)
EBM	440(19")*130(3U)*645mm/68kg (1:1) 440(19")*130(3U)*680mm/65kg (3:1)	440(19")*130(3U)*680mm/65kg	440(19")*130(3U)*680mm/65kg
Power module	440(19")*130(3U)*700mm/23kg (3:1 only)	440(19")*130(3U)*700mm/19kg (1:1) 440(19")*130(3U)*700mm/23kg (3:1)	440(19")*130(3U)*700mm/21kg (1:1) 440(19")*130(3U)*700mm/23kg (3:1)
Customer Service and Support			
Warranty	3 years electronics, 2 years battery		

* Runtimes are shown at 0.7 power factor. Backup times are approximate and may vary with equipment, configuration, battery age, temperature, etc

Part Numbers	9PX 6kVA	9PX 8kVA	9PX 11kVA
UPS	1:1 = 9PX6Ki	–	–
Power Module	3:1 = 9PX6Ki31PM	1:1 = 9PX8KiPM, 3:1 = 9PX8Ki31PM	1:1 = 9PX11KiPM , 3:1 = 9PX11ki31PM
EBM	1:1 = 9PXEBM180, 3:1 = 9PXEBM240	9PXEBM240	9PXEBM240
HotSwap Maintenance Bypass	1:1 = MBP6Ki, 3:1 = MBP11Ki31	1:1 = MBP11Ki, 3:1 = MBP11Ki31	1:1 = MBP11Ki, 3:1 = MBP11Ki31
Transformer Module (Single Phase in/out)	TFMR11Ki	TFMR11Ki	TFMR11Ki
Supercharger with Rack Kit	1:1 = N/A, 3:1 = SC240RT	SC240RT	SC240RT
1.8m Battery Connection Cable	1:1 = EBMCBL180, 3:1 = EBMCBL240	EBMCBL240	EBMCBL240
Battery Integration System	BINTSYS	BINTSYS	BINTSYS
Rack Kit	9RK	9RK	9RK

Eaton 9155

Technology: **Series 9 (Double Conversion On line)**
Rating: **8-30kVA**
Voltage: **220-240/380-415 Vac, 50/60 Hz**
Backup time: **Typical 5-33 min internal (extendable up to several hours)**
Configuration: **Cabinet**

Eaton 9155 are Series 9 UPS designed to protect high 0.9 p.f. rated, critical computers and servers. The centralised UPS protection is an essential part of IT infrastructure in today's IT, telecom, healthcare, banking and industrial automation applications. The 9155 features active input power factor control (PFC) and low 2-5% Total Harmonic Distortion (current) with IGBT rectifier technology

The Eaton 9155 operate using the unique ABM® function. While traditional UPS charges batteries continuously, ABM® charges batteries only when necessary, thus preventing battery corrosion. The exceptional ABM® function prolongs the service life of batteries by up to 50%.

Typical applications:

- High-capacity computers
- Server rooms
- Networks
- Process automation, control equipment
- Telecommunication applications
- Offshore, military and special projects

Product highlights:

- Hot Sync® redundancy
- ABM® providing up to 50% longer battery life time
- Active input power factor correction (PFC) providing 2-5% THD(i) harmonics
- High 0.9 p.f. output rating for server and high computer loads
- Market leading internal battery runtime
- User friendly graphical LCD display with light blue back light
- Web/SNMP and ModBus monitoring capability
- Intelligent Power® Software Suite bundled
- In-built Maintenance Bypass Switch on 20-30kVA models, optional on 8-15kVA models

Options

- System Parallel Cabinets for Hot Sync® Capacity/Redundancy Solutions
- External Maintenance Bypass Switches
- Extended Battery Cabinets
- X Slot connectivity options
- ViewUPS-X remote monitoring panel
- Preventative maintenance contracts

Eaton 9155 Technical specifications

Rating **Model**	**8 kVA** 9155-8-S 9155-8-N	**10 kVA** 9155-10-S 9155-10-N	**12 kVA** - 9155-12-N	**15 kVA** - 9155-15-N	**20kVA** - 9155-20-N-MBS	**30kVA** - 9155-30-N-MBS
Capacity (kVA/kilowatts)	8 / 7.2	10 / 9	12 / 10.8	15 / 13.5	20 / 18	30 / 27
Dimensions WxDxH (mm)	305x702x817	305x702x817	305x702x817	305x702x817	494x762x1684	494x762x1684
With extra runtime	305x702x1214	305x702x1214	305x702x1214	305x702x1214	-	-
Weight (kg) UPS without batteries UPS with internal 1xBAT UPS with internal 2xBAT UPS with internal 3xBAT UPS with internal 4xBAT	 70 165 270 N/A N/A	 70 165 270 N/A N/A	 70 165 270 N/A N/A	 70 165 270 N/A N/A	 200 300 400 500 600	 200 N/A 400 500 600
Typical runtime UPS+1xBAT UPS+2xBAT	15 min 33 min	10 min 25 min	8 min 20 min	5 min 15 min	5 min 13 min	N/A 7 min
Operational						
Nominal input voltage (Vac)	S models: 220/230/240 Vac single phase; N models: 220/380, 230/400, 240/415 Vac three phase					
Input voltage range	175/305V - 276/478V at 100% load, 115/200V - 276/478V at 50% load					
Operating frequency	50/60 Hz (45 to 65 Hz)					
Input power factor	0.99 (5% THD)					
Input current distortion	5% THD in normal network condition					
Nominal output voltage	220/230/240VAC single phase					
Output voltage regulation	±2% static; ±5% dynamic at 100% load change, < 1 ms response time					
Overload capacity	150% for 5 sec / 125% for 1 min (online), 1000% for 20 msec (bypass)					
Efficiency	92% with computer load; 93% with linear load					
User interface						
LCD-display	Graphical LCD with blue backlight, English, German and Spanish languages, extendable					
LED	4 LED for notice and alarm					
Standard communication ports	1 x RS232 for local support, 2 x X-slot (empty); 1 x relay contact, 1 x emergency power off input, 2 x environmental input					
Optional	External battery cabinets; isolation transformer; external mechanical bypass switch; X-slot; Web/SNMP, Modbus/Jbus, Relay, Hot Sync® cards					
Environmental						
Operating temperature	0°C to +40°C					
Storage temperature	-15°C to +40°C					
Altitude	< 1000 m at +40°C, < 3000 m at +25°C					
Audible noise at 1 metre	< 50dBA at 1 metre					
Certification						
Quality	ISO 9001; 2000 and ISO 14001:1996					
Markings	CE and GOST markings / C-Tick					
Safety	IEC 62040-1-1, IEC 60950, EN 62040-1-1					
EMC	EN 50091-2 Class A, C-Tick					

Eaton MX Frame

Technology:	**Series 9 (Double Conversion On Line)**
Rating:	**5-20kVA Scalable**
Voltage:	**220-240/380-415 Vac, 50/60 Hz**
Backup time:	**Typical 5-33 min internal (extendable up to several hours)**
Configuration:	**Rack/Tower convertible**

Pay as you grow - The system rating can be easily scaled in 5kVA increments as your power requirements increase. The MX frame is a modular system with 5kVA sub-modules paralleled to provide up to 20kVA or 15kVA with redundancy.

Continuous power supply

- Two front access hot-swappables sub-modules (power and battery) for maintenance without load interruption
- Automatic battery test (test period can be set)
- Internal bypass built-in to supply the load even if the UPS fails
- Large input voltage and frequency ranges to avoid using the batteries unnecessarily

Total flexibility

- Can be used as a free-standing tower unit with casters or 19" rack-mounted: only 16U for Eaton MX Frame
- LCD multilingual display with mimic and LEDs for rapid view of the UPS status, diagnostics and event log
- Outputs: IEC 10A and 16A outlet sockets and hardwired outputs.
- Built-in Powershare system for remote reboot of the equipment connected, sequential start-up or load shedding while operating from battery to maintain the power to critical loads
- Eaton MX Frame is compatible with three phase or single phase supplies
- Backup time: 10 mins up to 2 hours by adding 3U battery extension modules

Minimum total cost of ownership (TCO)

- More power with an output power factor of 0.9
- Eaton MX Frame is a modular system with 5 kVA sub-modules paralleled to provide up to 20 kVA or 15 kVA with redundancy

Advanced protection for:

- Departmental networks
- Server clusters

Eaton MX Technical Specifications	MX Frame 15 000	MX Frame 20 000
Rating (kVA/kW)	15 kVA / 13.5 kW	20 kVA / 18 kW
Paralleling		
Maximum rating / redundancy (1)	15 kVA / 10 kVA + 5 kVA redundancy 5 kVA + 2 x 5 kVA redundancy	20 kVA / 15 kVA + 5 kVA redundancy 10 kVA + 2 x 5 kVA redundancy
Inputs		
Technology	VFI-SS-113, on-line double conversion with power factor correction, convection cooled static bypass switch	
Number of phases, input connections	L + N or 3P + N, terminals up to 35 mm^2, separate or common AC normal and AC bypass	
Nominal voltage	200/208/220/230/240/250 V (L + N) or 380/400/415 V (3P + N)	
Voltage range without using battery (2)	120 - 280 V (L + N), 250 - 465 V (3P + N)	
Input frequency range, THDI	40-70 Hz, < 7%	
Outputs		
Output connections (3)	Terminals + 8 x IEC C13 (10A) + 4 IEC C19 (16A), sockets, except on -HWOP models	
Remotely controlled Powershare sockets	2 groups (2 IEC C13 10A per group)	
Output voltage and frequency (4), THDU, efficiency (5)	200/208/230/240 /250 V, 50 / 60 Hz autoselect, frequency converter as standard, <2%, 97%	
Backup time (6)		
Eaton MX standard backup time	8 minutes	8 minutes
Eaton MX + EXB / MX + 2 EXB / MX + 3 EXB	35 min (3 EXB)/60 min (6 EXB) /90 min (9 EXB) (7)	35 min (4 EXB)/60 min (8 EXB) /90 min (12 EXB)
Communications		
Slots	1 Mini Slot (MX) or 2 Mini Slot (MX Frame) for Network Card-MS, Relay Card-MS or Network & Modbus Card-MS connectivity cards	
Ports	Remote Power off (RJ11), 5 output contacts (DB9), setup via Solution-Pac (8), (USB and DB9-serial ports), EXB detection (RJ45), paralleling (DB 15)	
Operating conditions, standards and approvals		
Performance, safety, EMC, surge protection	IEC/EN 62 040-3, IEC/EN 62 040-1-1, IEC/EN 62 040-2 class A (class B as option), 4 kV IEC 61 643, UL 1778 and CSA 22.2 (9)	
Operating temperature, noise, approvals, guarantee	0°C to 40°C continuous, 45 dbA (10), UL, TüV, GS mark, CB, C-Tick, CE, IEC 61 931, one year (11)	
Dimensions H x W x D / Weight		
Eaton MX standard backup tower	Tower 690 mm high (795 mm casters) x 444.5 mm wide x 735 mm deep / 250 kg	
Eaton MX standard backup rack	Rack 16U x 444.5 mm wide, compatible with 800-1000 mm deep rack	
Eaton MX EXB battery unit tower / rack	Dimensions same as MX Frame / 194 kg for 15 kVA, 239 kg for 20 kVA	
Customer Service & Support		
Warranty	2 year warranty, including batteries.	

1: Eaton MXs can be paralleled using ModularEasy. **2**: At 70% load. **3**: 4 IEC C13 (10A) 2 m long cables for use with retention clips (8 cables for use with Eaton MX Frame). **4**: Frequency conversion for non-paralleled units only. **5**: Economy mode, 91% in normal mode. **6**: At 70% nominal rating with power factor 0.7 typical values after 3 charge/discharge cycles, with 3-5 years old batteries. Weekly battery test without interrupting the load (daily or monthly if required). EXB compatible with 0.8 power factor loads. **7**: With Eaton MX Frame EXB (4 battery units). **8**: Solution-Pac CD-ROM supplied as standard. **9**: Applicable to US models. **10**: 50 dbA above 5 kVA. **11**: Depending on the country, see www.eaton.com/powerquality.

Part Numbers	MX Frame 15 000	MX Frame 20 000
Eaton MX Tower or rack-mounting: standard backup time	MXF15KC05	MXF20KC05
Eaton MX EXB: battery extension module	M87103	
Eaton MX / EXB Rack Kit: rail kit for 19" rack mounting	M68002	
MX 1,8 m Battery extension cable	M68528	M68528
MX Battery / Power electronics sub-module	M68524 / M68523	M68524 / M68523
Eaton MX Frame empty chassis	M68526	M68526
Battery Integration System (up to 9 EXB)	M68527	M68527

1: (with rack kit, casters, NMC card) MXF15KC05 = M68526 (empty Eaton MX Frame) + 3 x M68524 + 3 x M68523. **2**: (with rack kit, casters, NMC card) MXF20KC05 = M68526 (empty Eaton MX Frame) + 4 x M68524 + 4 x M68523.

Eaton E Series DX

Technology: **Series 9 (Double Conversion On Line)**
Rating: **20kVA – 40kVA**
Voltage: **380-415 Vac, 50/60Hz**
Backup Time: **Typical 5-14 min internal (extendable up to several hours)**
Configuration: **Tower**

The Eaton® E Series DX is a three-phase, double conversion uninterruptible power supply (UPS), and is available in 20, 30 and 40kVA output power ratings. Its design fits perfectly to any environment where uninterrupted power feed is required to secure critical equipment's continuous operation. The E Series DX UPS provides a perfect solution for power protection, and solves power quality problems such as surges, spikes, voltage fluctuations, harmonic distortion, clutter interference and frequency fluctuations.

With E series DX, each phase is independently double converted and regulated. In addition a PFC (power factor control) controller is used for real time control and data processing, ensuring high availability at all times. Further reliability is accomplished by introducing an intelligent charge mode which significantly prolongs service life of batteries. Also, the possibility to have dual feed on UPS input adds availability and increases reliability of the system.

As an added benefit, IP21 compliant design makes E Series DX a perfect fit for industrial and other applications, with harsh environmental conditions. An optional filter is also available for further protection against the smallest damaging particles.

Typical applications

- Computers and Peripherals
- POS Equipment
- PLC Systems
- Security Systems

Features

- On-line double conversion topology assures maximum reliability
- High Frequency technology allows a compact design that delivers perfect sine wave output.
- Intuitive front-panel LCD user interface for consistent status indication
- 0.8 Power Factor output
- Internal battery option for short run times
- Tested for generator compatibility
- Automatic bypass for fault-tolerance
- Built in maintenance bypass switch
- Parallelable for N+X capacity & redundancy
- WINPOWER software monitors power conditions

Options

- SNMP/Web Card
- Modbus Card
- External Maintenance Bypass Switch
- Extended Battery Cabinets

Description	kVA	Model description	Part number	Net weight (kg)	Dimensions (WxDxH mm)
Standard models with space for internal batteries	20	Eaton E Series DX 20 kVA B	EDX20K4EB, EDX20K4AUB	120	420 x 710 x 1245
	30	Eaton E Series DX 30 kVA B	EDX30K4EB, EDX30K4AUB	195	470 x 710 x 1753
	40	Eaton E Series DX 40 kVA B	EDX40K4EB, EDX40K4AUB	195	470 x 710 x 1753
Standard models with internal batteries installed	20	Eaton E Series DX 20 kVA BI	EDX20K4EBI, EDX20K4AUBI	272	420 x 710 x 1245
	30	Eaton E Series DX 30 kVA BI	EDX30K4EBI, EDX30K4AUBI	515	470 x 710 x 1753
	40	Eaton E Series DX 40 kVA BI	EDX40K4EBI, EDX40K4AUBI	515	470 x 710 x 1753

Eaton E Series DX 3 Phase Technical specifications

Input		**Operating environment**	
Nominal Voltage	380/400/415 Vac (L-L)	Temperature	0°C to 40°C
	220/230/240 Vac (L-N)	Humidity	20% to 90% non-condensing
Frequency	40-65 Hz (self-adaptive to 50 Hz and 60 Hz)	**Efficiency**	
Wiring	3-Phase + N + PE	Line mode	92%
THD i	<5%	HE mode (high efficiency)	98%
Power factor	>0.99	**Display**	
Dual-line input	Supported	LCD	UPS status and operating instructions. Input voltage, output voltage, current, frequency, charger voltage and current, fault and warning display.
Battery			
Type	Maintenance free VRLA batteries		
Backup time	Up to 15 min with internal batteries on 20-40kVA, more with external batteries	LED	UPS operation status
Battery Voltage	360 V (30x12 V, 180 cells), 20kVA 384 V (32x12 V, 192 cells), all other models	**Warning equipment**	
			Buzzer alarm and light double LED
Output		**Communication interface**	
Voltage	380/400/415 Vac (L-L) 220/230/240 Vac (L-N)		RS-232, AS/400, RS485, service, EPO, interface for battery temperature sensor, intelligent communications slot
Frequency	50/60 Hz		
Phase	Three-phase four wire + ground		
Power factor	0.8		
Overload capability	125% 10 minutes, 150% 1 minute		

Runtime for 20-40kVA UPS with internal batteries p.f. 0.7 (typical IT server/computer load)

Battery	Qty	20	30	40	kVA
7 Ah 12 V	2 x 30	6	–	–	min
9 Ah 12 V	2 x 30	10	–	–	min
7 Ah 12 V	3 x 32	–	6	–	min
9 Ah 12 V	3 x 32	–	10	–	min
7 Ah 12 V	4 x 32	–	11	6	min
9 Ah 12 V	4 x 32	–	15	10	min

Run time chart provides typical information. Battery runtimes are approximate and may vary with equipment, configuration, battery age, temperature, etc.

Eaton 9355

Technology: **Series 9 (Double Conversion On Line)**
Rating: **8-40 kVA**
Voltage: **380-415 Vac, 50/60 Hz**
Backup time: **Typical 5-33 min internal (extendable up to several hours)**
Configuration: **Cabinet**

Eaton 9355 are Series 9 UPS designed to protect high 0.9 p.f. rated, critical computers and servers. The centralised UPS protection is an essential part of IT infrastructure in today's IT, telecom, healthcare, banking and industrial automation applications. The 9355 features active input power factor control (PFC) and low 2-5% Total Harmonic Distortion (current) with IGBT rectifier technology.

The 9355 operate using the unique ABM® function. While traditional UPS charges batteries continuously, ABM® charges batteries only when necessary, thus preventing battery corrosion. The exceptional ABM® function prolongs the service life of batteries by up to 50%.

Typical applications:

- High-capacity computers
- Server rooms
- Networks
- Process automation, control equipment
- Telecommunication applications
- Offshore, military and special projects

Product highlights:

- Hot Sync® redundancy
- ABM® providing up to 50% longer battery life time
- Active input power factor correction (PFC) providing 2-5% THD(i) harmonics
- High 0.9 p.f. output rating for server and high computer loads
- Market leading internal battery runtime
- User friendly graphical LCD display with light blue back light
- Web/SNMP and ModBus monitoring capability
- Intelligent Power® Software Suite bundled
- In-built Maintenance Bypass Switch on 20-40kVA models, optional on 8-15kVA models

Options:

- System Parallel Cabinets for Hot Sync® Capacity/Redundancy Solutions
- "UPS Centre" distribution cabinets for small computer room applications
- External Maintenance Bypass Switches
- Extended Battery Cabinets
- X Slot connectivity options
- ViewUPS-X remote monitoring panel
- Preventative maintenance contracts

Eaton 9355 Technical Specifications

Rating	**8kVA**	**10kVA**	**12kVA**	**15kVA**	**20kVA**	**30kVA**	**40kVA**
Model	9355-8-N	9355-10-N	9355-12-N	9355-15-N	9355-20-N-MBS	9355-30-N-MBS	9355-40-N-MBS
Capacity (kVA/kilowatts)	8 / 7.2	10 / 9	12 / 10.8	15 / 13.5	20 / 18	30 / 27	40 / 36
Dimensions (mm) WxDxH	305 x 702 x 817				494 x 762 x 1684		
With extra runtime	305 x 702 x 1214				-		
Weight (kg) UPS without batteries UPS with internal 1xBAT UPS with internal 2xBAT UPS with internal 3xBAT UPS with internal 4xBAT	 75 165 N/A N/A	 75 165 275 N/A N/A	 75 165 275 N/A N/A	 75 165 275 N/A N/A	 200 300 400 500 600	 200 N/A 400 500 600	 217 N/A N/A 517 617
Input Connection	Hardwired	Hardwired	Hardwired	Hardwired	Hardwired	Hardwired	Hardwired
Output Connection	Hardwired	Hardwired	Hardwired	Hardwired	Hardwired	Hardwired	Hardwired
*Typical runtime with 1xBAT Typical runtime with 2xBAT Typical runtime with 3xBAT Typical runtime with 4xBAT	15 min 33 min N/A N/A	10 min 25 min N/A N/A	8 min 20 min N/A N/A	5 min 15 min N/A N/A	5 min 13 min 22 min 31 min	N/A 7 min 13 min 20 min	N/A N/A 8 min 12 min
Operational							
Nominal input voltage (Vac)	220/380, 230/400, 240/415 Vac three phase						
Input voltage range	175/305V - 276/478V at 100% load, 115/200V - 276/478V at 50% load						
Operating frequency	50/60 Hz (45 to 65 Hz)						
Input power factor	0.99						
Input current distortion	5% THD in normal network condition						
Nominal output voltage	380/400/415 three phase						
Output voltage regulation	2% static; 5% dynamic at 100% load change, < 1 ms response time						
Overload capacity	150% for 5 sec / 125% for 1 min (online), 1000% for 5 msec (bypass)						
Efficiency	92% with computer load; 93% with linear load						
User interface							
LCD-display	Graphical LCD with blue backlight, English, German and Spanish languages, extendable						
LED	4 LED for notice and alarm						
Standard communication ports	1 x RS232 for local support, 2 x X-Slot (empty); 1 x relay contact, 1 x emergency power off input, 2 x environmental input						
Optional	External battery cabinets; isolation transformer; external mechanical bypass switch; X-Slot; Web/SNMP, Modbus/Jbus, relay card, RS232 port, Hot Sync® card						
Environmental							
Operating temperature	0°C to +40°C						
Storage temperature	-15°C to +40°C						
Altitude	< 1000 m at +40°C, < 3000 m at +25°C						
Audible noise at 1 metre	< 50dBA at 1 metre						
Certification							
Quality	ISO 9001; 2000 and ISO 14001: 1996						
Markings	CE and GOST markings / C-Tick						
Safety	IEC 62040-1-1, IEC 60950, EN 62040-1-1						
EMC	EN 50091-2 Class A, C-Tick						

Eaton BladeUPS™

Technology:	**Double Conversion On Line, On Demand**
Rating:	**12 to 60 kW N+1 using 12 kW modules**
Voltage:	**400 Vac, 50/60 Hz**
Backup time:	**5 minutes typical, extendable**
Configuration:	**Rack-mount**

Eaton BladeUPS is the first product on the market to offer a "Online, Double Conversion On Demand" power technology. This innovative design takes into consideration the design capabilities of the actual computer power supplies in such a manner that the UPS furthers that capability in order to provide an extremely efficient and robust protection solution without generating additional heat.

The BladeUPS is a rack-mounted three-phase input and three-phase output uninterruptible power system. Each 12kW module can be paralleled to achieve a maximum 60 kW N+1 system. Paralleling can be accomplished for either redundancy or capacity purposes. Each 12 kW module is identical and can be converted from a single stand alone UPS to a system capable of being paralleled by simply changing the power cord. The BladeUPS is designed for computer data centre installations.

Paralleling of the BladeUPS modules takes place in the BladeUPS bar, which is mounted separately in the rear of the IT rack. This bar provides the required input and output power connections for 4 or 6 BladeUPS modules. Each BladeUPS bar comes equipped with fully rated input and output lugs within a designated wiring area. The protected load can be connected to the wiring section, or distributed output can be taken in 12 kW increments from the locking output connector on the rear of the BladeUPS module.

A single BladeUPS module can be connected to the BladeUPS bar, with additional modules installed to meet future power demands.

Typical applications:

- Data centres with rack mount blade servers
- Telecommunications

Product highlights:

- Minimum efficiency of >98% in normal operation
- Easy to install, configure and deploy
- Fits into standard 19" rack cabinets
- Hot-swappable battery and electronics modules
- Parallel for capacity/redundancy
- Hot Sync® redundancy
- Decentralised bypass ensures no single failure point
- ABM® prolongs battery life by up to 50%

Options:

- X Slot connectivity options
- Power Xpert® software

An Eaton Green Solution

BladeUPS - Scalability

Meet current and changing requirements with modular architecture

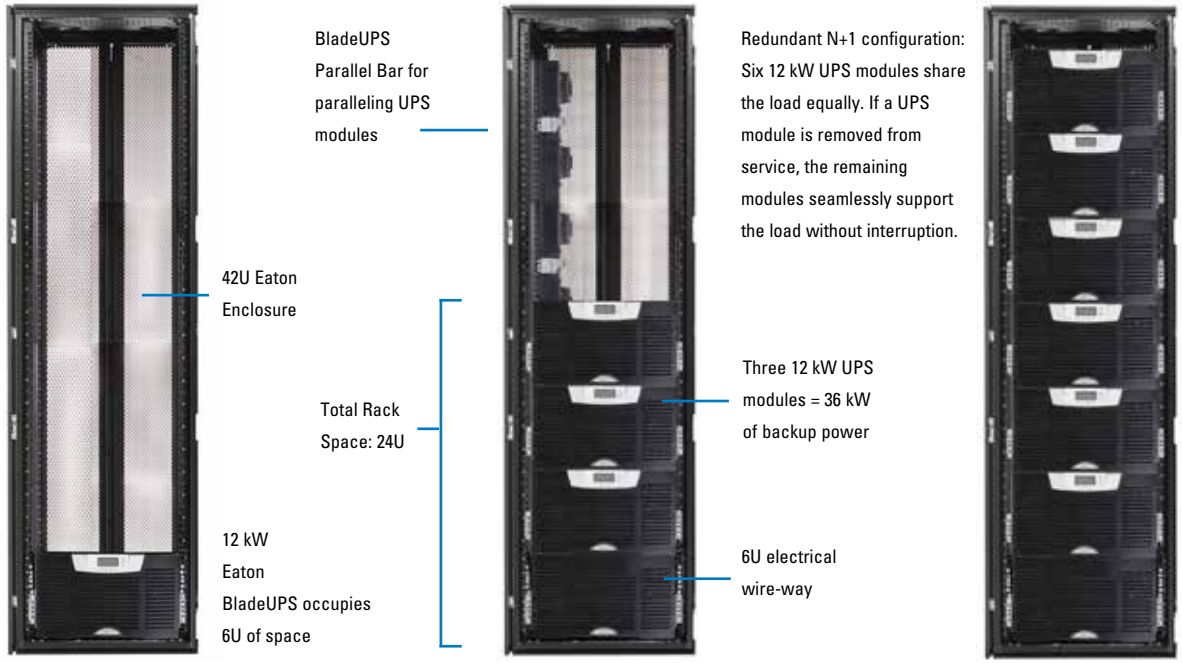
The building block of the Eaton BladeUPS system is a 6U rack-mount module that provides 12 kW of backup power protection. The system expands easily to provide maximum results. As your data centre grows, the system's modularity plays a key role in optimising your capital planning and deployment. Using the patented and field-proven Hot Sync® paralleling technology, up to six BladeUPS modules can be paralleled for extra capacity or redundancy, providing 60 kW of redundant backup power protection in one 19 inch rack.

Patented load-sharing control intelligently distributes the workload among modules without requiring direct synchronisation links among them. Any module can provide backup support for any other, with no interruption or downtime. For instance, in a redundant system you could perform full maintenance on any module without any interruption of conditioned power to the protected IT equipment.

YEAR 1:
INITIAL INSTALL

YEAR 3:
EXPANSION

YEAR 5:
FURTHER EXPANSION



12kW

36kW or 24kW, N+1

60kW, N+1

* Battery runtimes are approximate and may vary with equipment, configuration, battery age, temperature, etc. Runtimes at 0.7 pf.

Eaton 93E

Technology:	**Series 9 (Double Conversion On Line)**
Rating:	**80-400 kVA at 0.9 p.f.**
Voltage:	**230/400VAC 50/60 Hz**
Backup:	**Typical 5-60 min (extendable up to several hours)**
Configuration:	**Cabinet**

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.

Energy-efficient design

With a transformer-free design and sophisticated sensing and control circuitry the 93E is capable of achieving up to a 98% 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

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 35% smaller than similar competitive solutions
- 600mm wide UPS cabinet (80-200kVA models) enables seamless in-row" integration with IT racks

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.

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 enables provides the essential dry-contact interface between your Eaton UPS and any relay-connected computer as well as a variety of 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.

- Monitor and manage multiple power devices across your network
- Extend the uptime of dual-powered servers with redundancy capabilities
- Enable server shutdown and live migration events

To learn more, please visit www.eaton.com/intelligentpower

Applications:

- Small to medium data centres
- Corporate
- Telecom
- Healthcare
- Banking
- Industrial
- Education
- Government

Eaton 93E Technical Specifications

Rating	**80kVA**	**100kVA**	**120kVA**	**160kVA**	**200kVA**	**300kVA**	**400kVA**
Part number	93E80U-MBS	93E100N-MBS	93E120N-MBS	93E160U-IB	93E200N-IB	93E300U-IB	93E400N-IB
Capacity (kVA/kilowatts)	80/72	100/90	120/108	160/144	200/180	300/270	400/360
Dimensions WxDxH (mm)	600 x 800 x 1880					1600 x 820 x 1880	
Weight (kg) UPS only	283	283	311	457	457	865	970
Input connection	Dual Input, Hardwired						
Output connection	Hardwired						
Operational							
Nominal input voltage (Vac)	220/380, 230/400, 240/415VAC 50/60 Hz						
Input voltage range	190/330V - 276/478V at 100% load, 161/201V - 276/478V at 50% load						
Operating frequency	50 Hz or 60 Hz (42to 70 Hz)						
Input power factor	0.99						
Input current distortion	<5% THDi at rated input load						
Nominal output voltage	220/380, 230/400, 240/415VAC						
Output voltage regulation	±1% Balanced static load, ±6% with 5ms recovery from 10% to 90% load step, ±5% Balanced dynamic load						
Overload capacity	102-125% for 10 min 126-150% for 1 min >151% for 150 msec 1000% for one cycle (bypass)						
Efficiency	up to 94% (98.5% in HE High Efficiency Mode)						
User interface							
LCD display	Graphical LCD with blue backlight						
LED	4 status indicators						
Standard communication ports	2 x Mini Slot (MS),1x Emergency Power Off input, 3x Building Alarm inputs,1x RS232, In-built Hotsync						
Options	External battery cabinets and racks; system parallel cabinets; external maintenance bypass; top cable entry sidecar for 80-200kVA Mini Slot: SNMP/Web/HUB, ModBus, Relay card.						
Environmental							
Operating temperature	0°C to +40°C						
Storage temperature	-15°C to +55°C						
Altitude	1000m above sea level. Maximum 2000m with 1% de-rating per each additional 100m above 1000m						
Audible noise at 1 metre	≤65dB @ 75% Load for 80-120 kVA; ≤70dB @ 75% Load for 160-200 kVA ≤73dB @ 75% Load 300-400 kVA						
Certification							
Quality	ISO 9001 : 2000, ISO 14001 : 1996						
Markings	CE / C-Tick						
Safety	IEC 62040-1-1; IEC 60950; EN62040-1-1						
EMC	EN 50091-2						

In the interests of continuous product improvement all specifications are subject to change without notice.

Eaton 93PM

Technology: **Series 9 (Double Conversion On Line)**
Rating: **30-50kW at 1.0 p.f.**
Voltage: **230/400VAC 50/60 Hz**
Backup: **10-20 min internal (extendable up to several hours)**
Configuration: **Cabinet**

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 m².

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. The Eaton 93PM UPS is a high power density solution. In a footprint of just 0.5 m², it can provide full rated power and standard backup time with internal batteries.

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.

Typical applications:

- Data centres with rack mount blade servers
- Telecommunications

Product highlights:

- 96.7% efficiency in double conversion
- > 99% efficiency with Energy Saver System (ESS)
- Standard 10-20 minutes full load runtime with internal batteries
- 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
- Display shows power quality, energy consumption and efficiency trends
- Data logging feature allows easy measurement, monitoring and managing

Options:

- Variety of connectivity card options
- Environmental Monitoring Probe
- Extended runtimes with line-and-match external battery cabinets
- External maintenance bypass (wall mountable)
- System Parallel Modules

Door LEDs provide "at-a-glance" status indication

ESS
Energy Saver System

An Eaton Green Solution

Eaton 93PM Technical Specifications	
General	
UPS output power rating (1.0 p.f.)	30, 40, 50, 80, 100, 120, 150, 160, 200 kW
Efficiency in double conversion mode	**Up to 97%**
Efficiency in Energy Saver System (ESS)	**> 99%**
Field upgradeable	Yes
Inverter/rectifier topology	Transformer-free IGBT with PWM
Audible noise	30–50 kW: < 60 dBA, 80–200 kW: < 65 dBA, ESS operation: < 47 dBA
Altitude (max)	1000 m without derating (max 2000 m)
Input	
Input wiring	3ph + N + PE
Nominal voltage rating (configurable)	220/380, 230/400, 240/415 V 50/60 Hz
Input voltage range	High +20% rectifier input, 10% bypass input, Low –15% at 100% load, –40% at 50% load without battery discharge
Input frequency range	40–72 Hz
Input Power Factor	0.99
Input ITHD	30 kW: < 4.5%, 40–200 kW: **< 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 (VRLA)	432 V (36 x 12 V, 216 cells) or 480 V (40 x 12 V, 240 cells) Note: Strings with different battery voltage may not be paralleled!
Charging current maximum	30–50 kW 16.5 A, 80–100 kW 33 A, 120–150 kW 49.5 A, 160–200 kW 66 A
Battery start capability	Yes
Output	
Output wiring	3ph + 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)
Rated 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% Note: Bypass fuses may limit the overload capability!
Accessories options	
External battery cabinets with long-life batteries, External maintenance bypass switch, integrated manual bypass (up to 150kW) and MiniSlot connectivity (Web/SNMP, ModBus/Jbus, Relay)	
Communications	
MiniSlot	3 communication bays
Network/SNMP interface	Yes, standard
Serial ports	Built-in host and device USB
Relay inputs/outputs	5 relay inputs and dedicated EPO 1 relay output
Environmental	
Operating temperature	0°C to +40°C
Storage temperature	-25°C to +55°C
Altitude	1000m without derating (Maximum 2000m)
Audible noise at 1 metre	55dB @ 75% Load, 60dB @ 100% Load
Compliance with standarts	
Safety (CB certified)	IEC 62040-1
EMC	IEC 62040-2
Performance	IEC 62040-3

Eaton Power Xpert 9395

Technology: Series 9
Rating: 200kVA – 1100kVA at 0.9 p.f.
Voltage: 230/400 VAC 50/60Hz
Backup: 5-60 min
Configuration: Cabinet

The Eaton 9395 uninterruptible power system (UPS) is a double-conversion UPS that resolves all utility power problems and supplies clean, continuous, uninterruptible power to connected equipment. Whether you're selecting a UPS for a branch office, manufacturing floor, medical facility, or a large data centre, there's a 9395 model that delivers just the right combination of performance and price for your needs.

Taking large system mission critical reliability to the next step. The 9395 combines the reliability and redundancy of a multi-module UPS into an integrated, pre-wired solution. Built with up to 275 kVA building blocks, the 9395 features N+1 internal redundancy, which allows one 275 kVA module to automatically carry the load in the event the other module is out of service.

Advanced design delivers unequalled power performance. The innovative design of the 9395 delivers the industry's best performance combination of efficiency, input current distortion and power factor. The 9395 operates at a high efficiency of up to 99%, reducing utility costs and extending battery runtimes. Higher system efficiency produces cooler operating conditions, which reduces facility air conditioning cost, extends the life of UPS components, and increases overall reliability, availability, and performance. A new input circuit design keeps input current THD low and input power factor near unity without compromising overall efficiency.

Eaton's Energy Advantage Architecture

9395 features maximised energy efficiencies with Energy Advantage Architecture (EAA): Variable Module Management System (VMMS) optimises system efficiency at low load levels and Energy Saver System (ESS) allows dramatic increase in UPS efficiency without sacrificing load protection.

Features:

Delivers the highest reliability and availability for large, mission-critical systems by integrating a redundant multi-module UPS (including the System Bypass Module) into a single, pre-wired unit

Grows with changing power requirements with scalable architecture that allows you to add another 275 kVA module on-site later for capacity or redundancy

Eliminates the need to switch to bypass for service with concurrent serviceability: One redundant 275 kVA module can be isolated and serviced while the other is online

Provides unmatched power performance for efficiency, input current harmonic distortion (THD), and power factor

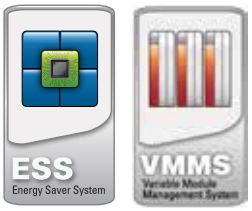
Ensures battery reliability with innovative ABM® three-stage charging system, battery health-checks, optional temperature-compensated charging, and remote monitoring

Lowers installation time and costs with small footprint and the flexibility to install against walls using top- or bottom-entry cabling and by eliminating the need to run inter-unit cabling on-site with pre-wired configuration

Integrates seamlessly with PowerXpert software to enable you to monitor and manage the UPS, as well as the entire power system, including all upstream and downstream switchgear

An Eaton Green Solution

Optional 10" touchscreen display



Eaton 9395 UPS with redundant, field-installed module

Eaton 9395 Technical Specifications

UPS rating										
kVA	200	225	275	300	400	450	550	600	825	1100
kW	180	202	250	240	360	405	500	480	750	1000

General characteristics	
Efficiency	Up to 95%
Parallel capability	Up to 5 modules
Audible noise	75 to 81.5dBA @ 1m, model dependant
Altitude (max)	1000 m at 40°C
Internal N+1 redundance capable	Yes
Field upgradeable	for redundancy
System bypass module	Included

Input characteristics	
Voltage	415
Voltage range	+15% / -20%
Frequency range	45-65 Hz
Power factor	0.99
Input current distortion	3-5% in nominal load condition
Soft start capability	Yes
Internal backfeed Protection	Yes (except on 200/400kVA models)

Output characteristics	
Voltage	415
Regulation	± 1%
Inverter	PWM with IGBT switching
Voltage THD	< 2% (100% linear load); < 5% (standard non-linear load)
Load power factor range	0.7 lagging to 0.8 leading

Battery	
Battery types	VRLA, AGM,
Battery voltage	480 V
Temperature compensation	Optional
Charging method	Advanced battery management technology

	Dimensions (W x D x H)	Weights
200kVA	1350x880x1800 mm	810 kg
225,275 and 300kVA	1350x880x1880 mm	830 kg
400kVA and 200kVA redundant	1890x880x1880 mm	1390 kg
550/600kVA and 275/300kVA redundant	1890x880x1880 mm	1430 kg
550 kVA redundant	2520x880x1880 mm	2030 kg
275 kVA field upgrade UPS-U	740x880x1880 mm	600 kg
825 kVA	3710x880x1880 mm	3460 kg
1100 kVA	4450x880x1880 mm	3460 kg

User benefits	
Control panel (LCD)	8 lines x 40 characters
Frequency conversion	Optional
Remote display panel	Optional
Buildings alarm inputs	2 (galvanic isolated)

Serviceability	
Back/side against wall installation	Standard

Optional accessories	
Integrated maintenance bypass	
Input breaker	
Batteries	in line-and-match cabinets

Certification	
Safety	IEC 62040.1.1
EMC	EN50091.2

Communications

Software compatibility - Power Xpert
Communication cards - Two communication bays standard. Maximum of four communication bays with the communication expansion option. The following connectivity options can be installed at any time.
- ConnectUPS Web/SNMP/xHub, Modus card, Relay Interface Card (Use for AS400s), Industrial Relay Card (5A@120V), Hot Sync® CAN Bridge Card provides CAN communications, isolated RS-485 port, Environmental Monitoring Probe (EMP)

Maximise your available power

- Utilise all your available power – through Intelligent Power® monitoring

Ensure you have the power you need, where you need it

- Combinations of IEC C13, C19 and local sockets
- Manage your moves and changes in the data centre and redistribute your power
- Know what power is available for you to add servers or capacity, or if you are reaching capacity

Maximum availability

- Designed for the data centre environment and to fit in any industry standard rack
- Rugged Aluminium chassis, with multiple mounting options
- Available in 0U Vertical, and 1U or 2U horizontal options
- High quality components and state-of-the-art technology and circuitry

Managed ePDU

Managed ePDUs offer the data centre managers the maximum functionality – fully Intelligent Power distribution for – complete understanding and control, of Data Centre power distribution, including:

- **Monitoring:** highly accurate individual outlet, branch circuit, and full ePDU monitoring for V, W, A and kWhrs. Also monitor temperature and humidity in the rack via optional sensors
- **Switching:** individual outlet, sequencing of outlets with delays or cycling enables remote reboot of equipment
- **Control:** Monitor and control remotely over Ethernet and via Advanced LCD screen on the unit. Communication protocols include HTTP / HTTPS, DHCP, SNMP v1 and v3, SNTP, SMTP, Telnet, IPv4 & IPv6

Manage your power consumption

- Control your operating costs by monitoring and tracking consumption from rack to branch, right down to the individual server
- Easily identify physical branch sections and related breakers through Colour-coded sections
- Accurate V, W, A and kWhr measurement enables analysis and tracking
- Enables you to see what your servers are doing

Complete control and understanding

- Control your power distribution and consumption
- Build knowledge base of what is going on
- Switch, sequence outlets and outlet groups as well as individually monitor – you have complete control

Switched ePDU

Switched ePDUs give control to the Data Centre manager – be able to remotely shut off or restart equipment, and ensure that it starts up in the correct sequence with the correct delays.

- **Switching:** on and off control of individual outlets, together with cycling and sequencing of outlets, branch circuits and the ePDU as a whole
- **Monitoring:** Highly accurate monitoring of the ePDU as a whole for V, W, A and kWhr. Also monitor temperature and humidity in the rack via optional sensors
- **Control:** Monitor over Ethernet or via Advanced LCD screen on the unit, control via Ethernet. Communication protocols include HTTP / HTTPS, DHCP, SNMP v1 and v3, SNTP, SMTP, Telnet, IPv4 & IPv6.

Basic ePDU

Designed for reliable and cost effective power distribution, Basic ePDUs have the form factor and outlet choices to meet your needs.

Designed for the Data Centre: All ePDUs, including basic ePDUs, are made of rugged aluminium or steel chassis and incorporate fully shrouded circuit breakers and switches, they are designed to be highly reliable, and designed to last.

Advanced Monitored ePDU

Advanced Monitored ePDUs give the data centre manager the detailed information and understanding they need to efficiently and effectively run their data centre

- **Monitoring:** Highly accurate individual outlet monitoring, branch circuit monitoring and the ePDU as a whole, for V, W, A and kWhrs. Also monitor temperature and humidity in the rack via optional sensors
- **Control:** Monitor and measure key properties and alerts remotely over Ethernet or via Advanced LCD screen on the unit. Communication protocols include HTTP / HTTPS, DHCP, SNMP v1 and v3, SNTP, SMTP, Telnet, IPv4 & IPv6

Monitored ePDU

Monitored ePDUs monitor the current draw to allow for provisioning and load balancing of servers, and to ensure current draw is not approaching breaker limits.

- **Monitoring:** Monitor current on input and each branch circuit to ensure accurate load balancing
- **Control:** Monitor and measure remotely over Ethernet or via LED interface on the unit

Transfer Switch

The STS source transfer switch is a simple and effective solution to manage the redundancy provided by two independent power sources. STS handles the automatic or manual transfer of your loads between two independent power sources without interrupting the supply of power (< 6 milliseconds). Either of the two sources may be designated as the preferred source with the other becoming the alternate source. In the event of a failure, transfer from one to the other is automatic and instantaneous.

Aisle containment

Industry studies indicate that an estimated 60% of the cool air supplied to traditional data centres is wasted because it bypasses the intended IT equipment and returns directly to the hot air intake of the CRAC. Adopting a cold or hot aisle containment strategy increases air efficiencies, allowing a significant reduction of cold air supply, translating to longer hardware life and valuable energy savings.

Eaton's solutions can be equally effective for both hot and cold aisles in the data centre.

Rack Integrated System

End of Row Doors create more efficient cold aisles by blocking an obvious cold-air escape route and entry for hot air re-circulation and air mixing. This allows you to set a higher overall temperature within the data centre thus saving energy and extending hardware life.

Eaton's ceiling system is comprised of clear panels made from materials with multiple ratings including UL94 V-0, ASTM E 84, FM4910 or antistatic. These panels mount easily to the top of Paramount, Vantage S2 and third-party enclosures. The ceiling system is modular and scalable to accommodate differences in rack heights and row spacing. It's self-supporting structure allows for easy rack changes within the row. Fire-activated ceiling panels ensure quick row access for critical fire suppression.

Independent Containment System (ICS)

The culmination of Eaton containment strategies is its patent pending Independent Containment System (ICS), a free-standing, scalable, sustainable and vendor-neutral containment solution for high-density computing environments.

Designed to provide maximum flexibility in all environments, the ICS, assembled within the footprint of a standard aisle, is constructed with a tubular steel frame. The frame's structure is designed to be freestanding and meets seismic NEBS Zone 4 standards.

Additionally, it accepts a variety of Eaton's End of Row Doors including café style, swing and sliding models.

Features and Benefits

- Scalable Design – The ability to extend aisles with load growth makes the ICS an ideal solution for co-location and other highly evolving data centre. Design can support an overhead cable tray
- Containment Integrity – Vertical blanking panels ensure airflow containment when racks are partially deployed within the row and are easily removed in sections to allow quick installation of new IT racks
- Rack Agnostic – Ability to support virtually any brand of server or network rack in any depth, height and size with on-demand reconfiguration of the row
- Cold/Hot Aisle Compatible – Easily deployed as a cold aisle containment solution with or without a down flow chimney system
- Increased ROI – Modular, building-block design offers complete flexibility and room for growth increasing your initial Return on Investment (ROI)

Features and Benefits

- Variety of Door Models – Choose from three styles of doors – Single-swing, double-swing café style and sliding doors
- Ease of Installation – Field-installable, rack-integrated and freestanding options available
- Rack Agnostic – Flexible enough to install almost anywhere on any manufacturer's brand enclosure
- Improve Efficiency and Predictability – Increases cold air intake efficiency, from the bottom of the enclosure to the top, within the cold aisle
- Minimise Air Re-mixing – Cost-effectively minimise air mixing between the hot and cold aisle while keeping the uniform cold air supply in front of the servers for a consistent temperature top to bottom

Shown above - Independent Containment System featuring End Of Row, Cafe-style doors and vertical blanking panels to accommodate third-party enclosures.

Rack containment

Eaton Heat Containment System (HCS)

Eaton's HCS is a simple, scalable and low cost solution to cool up to 25 kW or more per enclosure without the expense of adding supplemental CRAC units to your data centre. This patented technology is available on Eaton's Paramount and Vantage S2 enclosure systems and can also be field retrofitted to most manufacturers' enclosures. The HCS contains and directs the heat exhaust of your IT equipment through the chimney that is attached to the top rear of the enclosure. The hot air is then ducted to your existing CRAC units through a plenum ceiling or high air returns.

Active Airflow Manager

Eaton's HCS pressure based system with active airflow, when combined with best practices, improves performance metrics considerably. Allocating the correct amount of airflow at known intake locations is the key to reducing energy consumption while increasing equipment performance. Best practices such as blanking panels, proper perforated tile placement and the reduction of bypass airflow must be employed to ensure desired results.

Features and benefits:

- SNMP managed device with user-friendly Web interface
- Controller continuously monitors pressure differentials to ensure that air entering the enclosure and server is properly removed
- Local LEDs indicate fan status including fan fail and over temperature
- Manage up to 64 peer active Airflow Managers via Ethernet
- Two integrated temperature sensors with e-mail alert capabilities
- Redundant power input, C13 plug type is required for each input, 90-240 Vac supplied by enclosure PDU(s)
- Controller is RoHS compliant
- Utilisation as your capacity demands grow
- Dramatically increasing the reliability of the data centre increasing their efficiency by operating at a higher Delta T (ΔT) centre, freeing up stranded assets and lowering operational costs locations and it is also field-installable on third-party enclosures

HCS for third-party racks

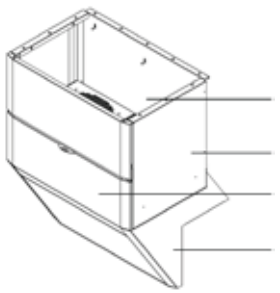
Converting existing enclosures to the HCS allows you to eliminate the incremental capital expense associated with having to add more CRAC units or other supplemental cooling.

Features and benefits:

- Implement heat containment operations by building up from existing enclosures without having to re-route or disconnect cables and power
- By isolating the hot exhaust air from the cold supply air, you can load over 25 kW of equipment in an enclosure
- Requires no additional air conditioners or other space consuming supplemental equipment at the perimeter of the data centre, in-row or overhead
- Eliminates chaos airflow results in a more predictable operating environment, allowing you to drive efficient energy use and create a reliable infrastructure for moves, additions and changes

Eaton's P Series enclosure with integrated HCS.

The HCS allows for your existing cable management without the interruption of re-routing or disconnecting cables and power. Shown here on Eaton's Paramount Enclosure System.



Enterprise-class racks

Eaton P Series enclosure system

Our premier enclosure platform, P Series not only supports an industry leading 1,000 kilograms of equipment in a fully welded frame, but it is also designed to adapt to the ever-changing requirements of the data centre through a scalable and modular approach. Speed of deployment is essential to any company when considering time to market. P Series' modularity and building block design ensures quick reconfigurations and minimises downtime, protecting your initial investment.

Features and benefits:

- Superior airflow control and management
- Flexible platform allows for ever-changing requirements, protecting your initial investment
- Industry leading weight capacity of up to 1,000 kilograms handles even the heaviest server equipment
- Guaranteed compatibility with TIA/EIA-310-D* standard sized equipment
- Eaton's patented Heat Containment System (HCS) cools up to 25 kW or more per enclosure, without the expense of adding supplemental CRAC units to your data centre
- Full complement of accessories to handle non-rackmount devices
- Industry leading cable access and management

Eaton E Series enclosures

Eaton's E Series enclosures provide high quality and advanced features at an affordable price.

Features and benefits:

- Lightweight but sturdy
- Stylish contoured front door provides 2,649.22cm^2 total open area. Exceeds major IT equipment air flow requirements
- Vendor neutral, compatible with all 19" standard IT equipment
- Depth adjustable 19" vertical mounting rails
- "U" numbers printed on rails
- Quick release and field reversible doors
- Overall height on casters, just under 2 metres, fits through standard doorway
- Two piece side panels provides easy access to interior
- Available in flatpack or fully assembled cabinet
- Quick assembly time, approximately 30 minutes

Specifications:

- Overall dimensions: 600W or 800W x 1000D x 1950H
- Useable height: 42U
- Load rated to 1,000 kg static
- Standard: EIA-310D, IEC-60297-2
- Material: high-grade cold and hot rolled steel/all materials RoHS compliant
- Finishing: 5 stage iron phosphate pre-treatment followed by tough scratch resistant powder coat paint

Rack accessories

Blanking panels

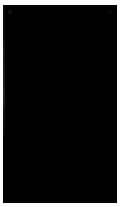
Blanking panels provide a quick, easy and cost-effective solution to optimise air circulation within an enclosure while maintaining high aesthetics. Eaton offers blanking panels in a variety of styles including tool-less, mechanically fastened, clear and with cable pass through options in steel as well as plastic. The width meets EIA-310-D standards and they come in various heights (depending on style). Most panels are bulk packed in quantities of 10 and 100.

Features and benefits:

- Significantly reduces re-circulation of hot exhaust air to the equipment inlet
- Adds to the overall aesthetics of the data centre
- 1U, 2U, 3U, 4U, 5U, 6U, 7U, 8U and 20U (depending on style)
- EIA-310-D compliant for 19" equipment
- Color: black steel, black plastic, clear plastic
- Available in tool-less, mechanically fastened, clear and cable pass-through styles

Solid side panel

A solid side panel kit (qty. 2) is available to further enclose your rack where end of row or single rack aesthetics is necessary.



Air Seal Kits

Stop air leakage through small openings and gaps in the doors, sides, bottom or top of your enclosures.

Heavy-duty fixed shelf

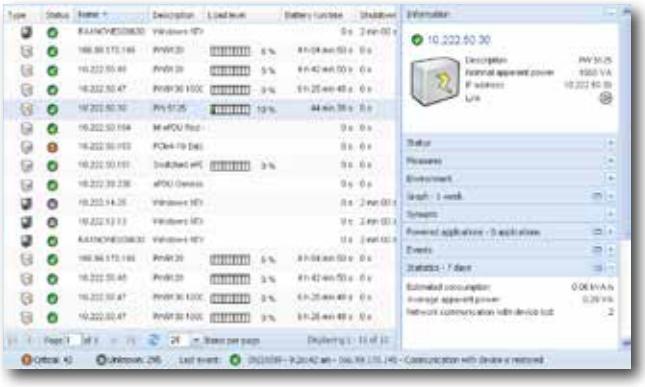
Supports non-rackmounted equipment. Four point mounting and 400 pound weight capacity.

Environmental Rack Monitor

Monitor Temperature & Humidity at two points in a rack or small server room, aswell as up to four contact sensor devices, ie Water leak, Vibration, Door contact or Smoke.

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 and automatic, graceful shutdown when faced with an extended power outage.



Use each software independently or as a powerful combination. Together with your UPS, they provide end-to-end power management for maximum uptime and data integrity.

Intelligent Power Manager: software for extensive monitoring and management.

Intelligent Power Protector and UPS Companion: shutdown software for extended power outages.

Intelligent Power Manager supervisory software lets you monitor and manage multiple power and environmental devices across the network from a single interface, giving you up-to-the-minute information on the status of power in your network. It also works seamlessly with VMware's vCenter Server™ and vMotion™ as well as Microsoft's SCVMM™ and Live Migration.

- Monitor and manage multiple power and environmental devices from any Internet browser or your vCenter dashboard
- Auto discovery provides fast installation by automatically detecting devices on the network
- Mass-upgrading of firmware capability reduces network management card setup and maintenance time
- Shutdown agent management enables safe shut down of servers
- Multiple password-protected access levels and support for secure communications
- All the functionality of an enterprise-class monitoring solution for free or at a fraction of the cost
- Support for up to 10 devices included at no charge; additional capacity may be purchased

Intelligent Power Protector and UPS Companion protection software provides graceful, automatic shutdown of network devices during a prolonged power disruption, preventing data loss and saving work-in-progress. As part of Eaton's power network management system, these two applications work together to deliver comprehensive power management and protection.

- Helps you avoid data loss by gracefully shutting down computers and virtual machines/servers powered by an Eaton UPS during an extended power outage
- Easy-to-use interface from any PC with a Web browser
- Acquires UPS information through local or network communication and can be easily deployed on many computers
- Can be remotely managed, configured and updated with Eaton's Intelligent Power Manager
- Can communicate with the protected device directly (via USB) or through the network (via Web/SNMP card)

Benefits for Virtualised Environments

Intelligent Power Manager's Integration with vCenter helps data centre managers reduce infrastructure and operating costs while increasing productivity and operational responsiveness Intelligent Power Manager triggers vcenter's vMotion and SCVMM's Live Migration applications to transparently move virtual machines from a server affected by a power interruption to an available server on the network, ensuring data integrity and zero downtime.

vmware® technology alliance PARTNER vmware READY NetApp EMC² Microsoft®

Network Management Cards

ConnectUPS Web/SNMP card

Network Card-MS

Network Card-MS and ConnectUPS Web/SNMP cards are a complete UPS monitoring, control and shutdown solution in a networked IT environment. In case of alert the Web/SNMP card can notify users and administrators through e-mail and SNMP traps. In case of a prolonged power failure the protected computer systems can be shut down in a graceful manner with Intelligent Power software. The unique three-port switching hub on the X-Slot model provides additional network connections.

Industrial Network Cards

ModBus cards

Network & Modbus Card-MS and X-Slot Modbus cards connect the UPS to industrial and building management systems using ModBus RTU protocol.

Power Xpert Cards

Power Xpert Gateway Card"

Power Xpert Gateway cards provide Web-enabled, real-time monitoring of Eaton UPSs and PDUs through standard onboard Web pages, Power Xpert Software or third-party software. As an integral part of the Power Xpert Architecture, the cards provide a central point to connect UPS and PDUs to an Ethernet network via an X-Slot communication bay.

Relay Cards

Relay/AS400 cards

Relay Card-MS, Minislot Industrial Relay Card and X-Slot Relay cards are an easy connection to IBM AS/400 series computers as well as industrial and building management systems.

Other Devices

Environmental Monitoring Probe

Environmental Monitoring Probe (EMP) adds temperature, humidity and two contact closure monitoring capability to Network Management Cards and Power Xpert Cards. It is especially well suited for monitoring rack temperature and door status. Operating system shutdown can be triggered if user defined thresholds are exceeded or contact closure status changes.

ViewUPS-X

ViewUPS-X remote display is an LCD panel that lets users view the status of the UPS from as far as 100 m. ViewUPS-X has also four status LEDs and an alarm sound. The display is bundled with a dedicated X-Slot card that also powers the display through the communication cable. In addition to the remote display connection the card has also a SELV isolated relay port for connection to monitoring systems and AS/400 computers.

Manage Power as a Strategic Asset

Today, the IT infrastructure is viewed—and managed—as a strategic business asset. Clearly, the quality of the electrical power that flows through facilities, data centres and server rooms should be a factor when IT managers measure infrastructure performance. Yet, invisible and fleeting power disturbances can be silent killers—often going unmonitored and unnoticed.

With Eaton's Power Xpert Architecture—the backbone of our PowerChain Management solutions—you gain unprecedented visibility into the entire power system. A framework to view your entire power system, Power Xpert Architecture encompasses conditioned power in the data centre as well as unconditioned power coming into the facility.

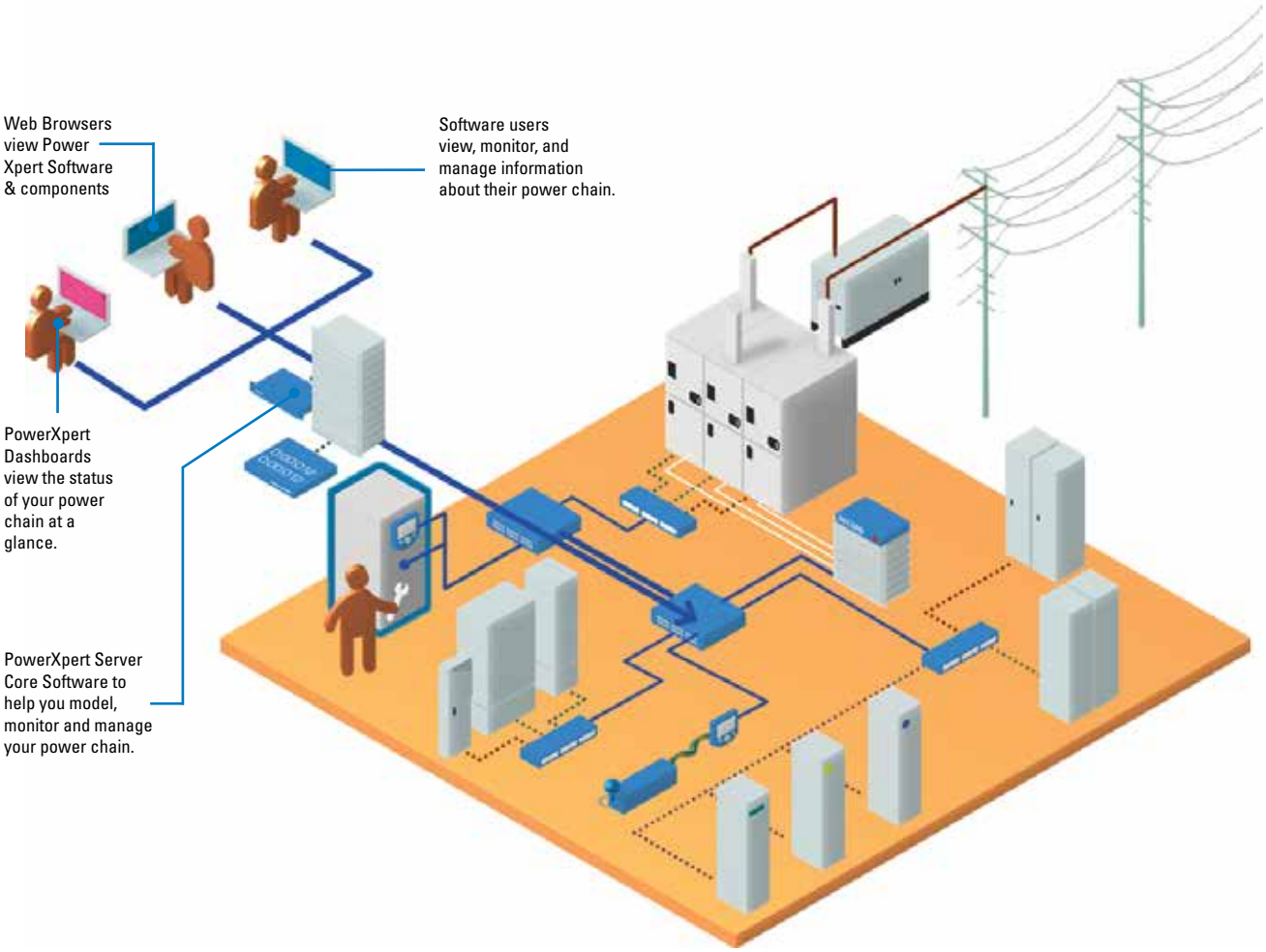
Through hardware, software and communication elements, the architecture unites diverse power components across your enterprise into a single view—old and new PDUs, batteries and other critical equipment from multiple manufacturers. So you can monitor, control and manage the power system more effectively and efficiently as you correlate events across the power system, drill into details for quick diagnosis and use tools to determine appropriate actions.

A simple, Web-based interface helps you to:

- Understand energy usage patterns and baselines
- Reduce peak loads, identify high energy users and realise energy savings
- Find the real causes of issues, including power event "ghosts," sags, swells and transients
- Analyse event severity according to IT standards
- See your power quality at a glance

Leverage Power Xpert Architecture to establish a unified management approach for your enterprise. The solution is based on open standards so that devices can communicate. It synchronises equipment clocks through a network time server so you can accurately correlate events at different points in the system.

Power Xpert Architecture—It's one of Eaton's powerful innovations in facility monitoring and management. For additional information about Power Xpert Architecture and to download the product data sheets, visit: www.eaton.com/powerxpert.



Power and Energy Meters

Power Xpert Meter 4000/6000/8000

Eaton's Power Xpert Meter series represents world-class power monitoring that reduces day-to-day operating costs and helps avoid costly business interruptions. The meters combine state-of-the-art technology with an embedded Web server, advanced power diagnostics, data trending and performance benchmarking, along with a twist-n-click LCD for simplicity and ease of use.

Features and Benefits

- Free download of power Xpert Meter Profiler to trend and predict energy usage
- Embedded Web Server
- Automatic power quality analysis and trigger setting with built-in ITIC performance curve
- Comprehensive power, energy and demand measurements for 138 standard data points logged
- At-a-glance view of power quality analysis with patented Power Quality Index gauge
- Industry-standard communication protocols, to support a multitude of configurations and third-party software: HTTP, FTP, Modbus RTU, Modbus TCP, SNMP, SMTP, NTP, COMTRADE
- High storage capacity
- ANSI C12.20 accuracy
- CE certified

Power Xpert Meter 2000 series

Compact Power Quality Metering products

The meters combine state-of-the-art technology with waveform viewing, data trending and performance benchmarking. The embedded Web server enables users to surf to the meter over the Internet via a standard Web browser. This platform offers adaptability such as field-upgradeable firmware and optional digital inputs/outputs and analog outputs.

Identify power quality problems to help:

- Protect motors from damage
- Preserve the integrity of processes and batches
- Prevent blown capacitor bank fuses
- Protect transformers and conductors from overheating

IQ 250/260 series

Metering products

The IQ 250 and IQ 260 electronic meters provide capabilities you wouldn't normally expect in an affordable, compact meter—such as fast sampling rate and accurate metering for a full range of power attributes. The meter can be configured either from the easy-to-read display or remotely (accessible via a Power Xpert Gateway) via included configuration software. In addition, built-in slots allow for upgrades to input/output option cards.

IQ 250/260 Features

- Comprehensive metering
- High-end accuracy
- Large, easy-to-read display
- Local or remote configuration
- Industry-standard communication protocols (Modbus)
- Mix-and-match input/output options
- Field-upgradeable

IQ 100 series

Metering products

Providing the first line of defense against costly power problems, Eaton's IQ 100 electronic power meters can perform the work of an entire wall of legacy metering equipment utilising today's technology. Eaton's IQ 100 meters use 24-bit AD converters that sample at more than 400 samples per cycle and meet ANSI C12.20 standards for accuracy of 0.5 percent. With such high-performance measurement capability, these meters can be confidently used for primary revenue metering and submetering applications.

Applications

- Utility and commercial metering
- Substations, industrial facilities, power generation sites and campuses
- Submetering
- Load studies and voltage recording
- Analog meter replacement

Power Xpert® Software and Foreseer Services

Power Xpert® Software

Power Xpert® Software enables you to manage the complexities of large system deployments, from one desktop, on one screen. Web enabled hardware devices are fine in limited numbers, but as the number of components grows or becomes more complex, Power Xpert® Software is the logical choice for the required trending, analysis and alarming systems.

Power Xpert® Software is Web-enabled, open and time synchronised. Using only a browser, you can access the software from anywhere your network can reach, including remotely. Designed to communicate graphically with the broad range of Eaton and non-Eaton devices, Power Xpert® Software uses industry-standard protocols. The software is available in two editions: Professional and Enterprise.

Power Xpert® Software Professional Edition

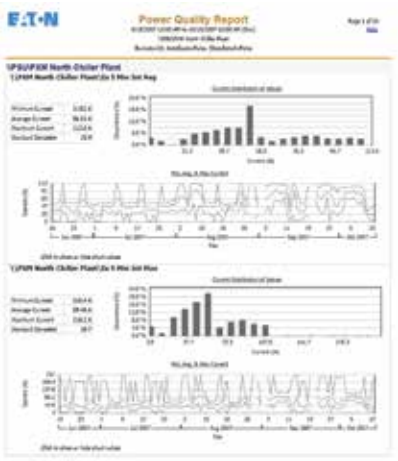
- Geared towards end users, with built in support for Eaton power distribution products such as switchgear, UPSs, breakers, PDUs, RPPs, meters, relays, VFDs and MCCs among others
- Eaton products connect with the software directly via an Ethernet connection, while legacy devices use a Power Xpert Gateway to Web-enable their communications
- A subset of third-party meters and devices are supported as standard via the gateway connection

Power Xpert® Software Enterprise Edition

- Geared towards advanced power users, system integrators and enterprises with heterogeneous device spectrum and system developers who can take advantage of the included SNMP and Modbus integration development utilities
- Extensive support for third-party devices via standard SNMP and Modbus TCP protocols
- Large variety of ready made third-party drop in drivers

Power Xpert Reporting

Standard reports include: Energy Summary Report, Energy Cost Allocation Report, Power Quality Report, Branch Circuit Report, Capacity Summary Report, Event Summary Report, Joint Commission (JCAHO) Report.



Highlighted features

- Helps quality for LEED credits
- Reporting hierarchies organise device data
- Microsoft Excel integration for further analysis
- Web browser access
- Connect to multiple databases simultaneously

Foreseer Services

Foreseer Services provide vendor independent, power and energy infrastructure integration solutions that help companies reduce energy consumption and unplanned downtime due to the failure of critical power, environmental, safety or security systems.

Features and Benefits

- Turns data into Distributed, scalable architecture is tailored to meet organisational needs.
- Offered in three main categories: Foreseer Software Services, Foreseer Project Management Services and Foreseer Engineering Services.
- High performance trend analysis and forecasting tools assess equipment performance through cause analysis, impact analysis, capacity planning, preventative maintenance assessments and trending.
- Extensive, multi-vendor, device-driven library interfaces monitor a multitude of different device types
- Customisable, graphic user interface (GUI) depicts any company or organisational topology in the initial design.
- Web browser access and remote notification enables easy system access without the need for additional client seat licenses.

Energy Management System Upgrade Kit

Monitoring: **42 circuits (one panel) or 84 circuits (two panels)**
Rating: **208/120V, 380/220V, 400/230V, 415/240V**
Configuration: **Wall-mounted, standalone unit**

Millions of dollars a year are invested in power protection systems such as UPSs and generators, but problems can still occur at the branch circuit level due to improper loading or inadequate monitoring. You might not be able to see trouble coming until a circuit breaker trips, and that's too late. Systems go down. Valuable data is lost, and business comes to a standstill. It can take hours to recover.

The EMS continuously measures the current on all breaker levels and warns you of impending trouble, so you can take proactive steps. Armed with these insights, data centre and facilities managers can more effectively balance loads, prevent overload conditions, plan for future capacity needs and, where applicable, allocate energy cost among internal departments.

Extending the reach of the Energy Management System

The EMS has always integrated with Eaton's latest generation of power distribution panelboards, power distribution units and remote power panels. Now a new Eaton Energy Management System Upgrade Kit is available to extend these branch circuit monitoring capabilities to existing equipment, from Eaton or others. With the EMS Upgrade Kit, you bring the entire power distribution system under the support of the EMS. Even if you have a mix of older equipment from other vendors, you get the insights to effectively manage the edge of the power distribution system. You will be able to track and analyse:

- Time-stamped metering, alarm, event and statistical information
- Peak loads, along with current, power and frequency minimums and maximums
- Voltage and power, monitored all the way down to the branch breaker level
- Power quality metrics, such as total harmonic distortion (THD) and power factor (PF)
- Load profiling to make the best decisions for energy planning This information is shown for individual circuits, each panelboard and at the equipment level—equipment such as a power distribution unit (PDU) or remote power panel (RPP)—to provide visibility at all levels in one system.

Features

- Extends the branch circuit monitoring capabilities of the Eaton Energy Management System (EMS) to legacy and third-party power distribution equipment
- Monitors power conditions on individual breakers, panels or at the equipment level—three tiers of visibility within one unit
- Provides remote monitoring via the Power Xpert® Gateway Card, which links Eaton and non-Eaton equipment to the local area network or the Internet
- Tracks and records more energy parameters and provides more standard features than alternative branch circuit monitoring systems from other vendors
- Delivers real-time and historical information for precision analysis, troubleshooting, power management, billing and energy planning
- Streamlines and unifies the management of diverse, multi-vendor power distribution systems

Surge Protection Equipment Overview

In nanoseconds a power surge can do major damage to sensitive equipment and data. It can come from anywhere, and like a bullet, you only know it has been by the destruction left behind.

That's why surge protection is so critical. And why Eaton builds so much quality into our full line of surge protection products. Eaton has a world beating reputation for Power Quality and a full range of surge protection solutions, covering every eventuality.

1. Eaton PPFi

2. Eaton SPD3200

3. Eaton SPDi

4. Eaton SPDV60/T60

5. Eaton Quickmov™

6. Eaton SPD50NGi

7. Eaton ESFi

8. Eaton DSFi

9. Eaton CSFi

10. Eaton PSFi

11. Eaton SF8RM

1. Series Power and Noise Filter with Shunt Surge Diverter 3 Phase, 100-800A, 80-240kA
2. Shunt Surge Diverter, 3 Phase 200kA
3. Shunt Surge Diverter, 1 and 3 Phase, 40kA and 100kA
4. Shunt Surge Diverter, 1 Pole 60kA
5. Integrated Surge Protection Device (Internally HRC Fused) 1 Pole 60kA
6. Neutral-Earth or Earth-Earth Equipotential Clamp 50kA
7. Series filter with Shunt Surge Diverter Class II/Cat C & B, 1 & 3 Phase 63-80A, 100kA Series Surge Filters
8. Series Filter with Shunt Surge Diverter, 1 Phase 5-32A, 40kA Primary
9. Series Filter with Shunt Surge Diverter, 1 Phase 3-25A, 25kA Primary
10. Portable Surge Filter, 1 Phase 10A & 16A, 25kA Primary and 140kA Primary
11. Single Phase Rack Mounted Filter /PDU

Sola Power Conditioners

Eaton's Sola ferroresonant products are proven technology. In 1938, Sola was awarded the first patent for ferroresonant power conditioners: the constant voltage transformer. Since then, our technology has remained at the forefront of ferroresonant power conditioning.

Today, Eaton's Sola ferroresonant power conditioners supply sinewave output, which is especially important for computer applications.

Whether you purchase a model 200, 210 or 26 voltage regulator, you can count on an average of 25 years service from your unit.

Every ferroresonant power conditioner is manufactured to exacting specifications and is subject to rigorous quality control.

The ferroresonant power conditioners protect equipment from all power problems, other than the complete loss of power. They excel at tightly regulating the voltage, providing superior noise attenuation and are ruggedly designed to withstand the harshest electrical environments.

Possessing no moving parts, ferroresonant power conditioners are virtually maintenance free.

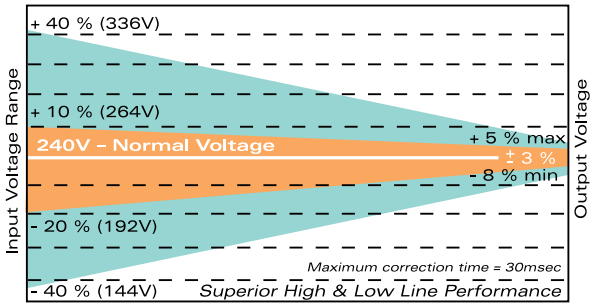
What is Ferroresonance?

Simply put, ferroresonance is the property of a transformer design in which the transformer contains two (2) separate magnetic paths with limited coupling between them. The output contains a parallel resonant tank circuit and draws power from the primary to replace the power delivered to the load.

Note that "resonance" in ferroresonance is similar to that in linear circuits with series or parallel inductors and capacitors, where the impedance peaks at a particular frequency. In a non linear circuit, such as a ferroresonant transformer, "resonance" is used to reduce the changes in supply voltage and provide more constant voltage to the load.

A magnetic device is non linear. Its reluctance changes abruptly above a certain magnetic flux density. At this point, the magnetic device is defined as being in saturation.

The design of the ferroresonant transformer allows one magnetic path to be in saturation, while the other is not. As a result, further change in the primary voltage will not translate into changes in the saturated, or secondary voltage, and voltage regulation results.



Typical Model 200 or 210 Performance

Features and Benefits

- **Superior Low Line Performance**
  Specified performance is maintained for all loads 0 - 100% of nominal rating

- **Switchmode Computer Load Compatibility**
  Able to support typical computer loads when input supply mains voltage is 50% below nominal

- **240 Volt, 230 Volt or 220 Volt Models**
  Separate models to suit different nominal supplies or particular nominal output voltage requirements

- **200% Overload Rated**
  Suitable for use with computer start up overloads. Units are output short circuit proof

- **On Site Configuration**
  7.5 to 18kVA units can be site configured as Single Phase or Three Phase operation, if required

- **Selectable Voltages**
  Hardwired 26 Series units have selectable input and output voltages

- **5 Year Warranty**
  Exceptional MTBF (Mean Time Between Failure), an optimum combination of performance to cost effective power conditioning

Sola 200/210

Designed and manufactured in Australia, the Sola 200/210 portable power conditioner provides smooth stepless control of output voltage to your computer or electronic system, whilst attenuating harmful impulses, surges and other power line disturbances.

The Sola 200/210 incorporates improved surge withstand capabilities, as specified by ANSI/IEEE C62.41-1980 and is covered by the SECV Certificate of Suitability Number CS84292V.

Built to protect

- Programmable logical controls (PLC)
- Photographic equipment
- Remote computer peripherals
- Copiers and laser printers
- Process control equipment
- CNC machinery
- Entire installations

Specifications

Input	
Voltage:	220 or 240 Volt AC
Frequency:	50 Hz
Input Voltage Range:	+ 10%, -20% (±40%)
Protection:	ANSI/IEEE C62.41-1980 A and B waveforms suppressed to safe levels.
Output	
Nominal Voltage:	220 or 240 Volt AC
Frequency:	50 Hz
Voltage Regulation:	±3% for +10%, -20% input. +5%, -8% for ±40% input.
Control:	AC on/off switch
Power Efficiency:	90%
Response/Correction Time:	Return to regulation envelope within 30 msec.
Dynamic Response:	Continuous and smooth correction for input voltage fluctuations.
Overloads	200% of rated load for 10 seconds without damage. 500% of rated load for 10 msec.
Electrical Noise Attenuation	
Transverse Mode:	60 dB typical, (80 dB max.) 4kHz to 20 MHz
Common Mode:	120 dB typical, (140 dB max.) 2kHz to 1 MHz
Output Harmonic Distortion	Less than 3% THD on linear loads. No greater than 5% on typical computer loads.
Environmental	
Operating Ambient:	-20°C to +50°C
Relative Humidity:	0 to 95% non-condensing
Ventilation:	Natural Convection Cooled
Status Indication	
Power On:	Amber lamp
Overload Protection	Output short circuit protection
Warranty	5 years

Ordering details

240 Volt In/Out

Rated Output VA	Part Number	Current AMPS (Cont.)	Output Receptacles	Weight (kg)	Enclosure Size (Note 3)
500	210-26-650-00	2.08	2	23	3
1000	210-26-710-00	4.16	3	36	4
2000	210-26-720-00	8.33	3	55	4
2500	210-26-725-00*	10.41	3	66	4

220 Volt In/Out Hardwired Units

Rated Output VA	Part Number	Current AMPS (Cont.)	Weight (kg)	Enclosure Size (Note 3)
500	200-44-650	2.27	23	3
1000	200-44-710	4.55	36	4
2000	200-44-720	9.09	55	4
2500	200-44-725	11.36	66	4

Notes:

1. 240 Volt Hardwired options available to order
2. Special voltage configurations available to order
3. Enclosure sizes (mm) Size 3: 195 (H) x 210 (W) x 328 (D)
   Size 4: 252 (H) x 280 (W) x 421 (D)
4. * Input lead fitted with 15 Amp plug top (all other units fitted with 10 Amp plug tops)
5. Specific input leads and output sockets can be fitted to order

Sola 200

The extension of Sola ferroresonant power conditioners continues through to 22kVA. These units are mostly suited to hardwired, fixed installation applications for providing smooth stepless control of the output voltage, attenuation of harmful impulses or surges and other power line disturbances. Sola 200 power conditioners are ideally suited to provide protection in computer rooms, regulation for scientific instrumentation, plus protection and regulated power to sophisticated computer based factory process equipment. To simplify installation, all units are free standing and fitted with castors (excluding 22kVA) and jacking feet. Connections are provided at the rear via a base plate cable entry to an isolation switch.

The flexibility of Sola 200 power conditioners is increased on units between 7.5kVA and 18kVA. These units can be field configured for single phase or three phase operation. Sola 200 power conditioners (3 to 22kVA) incorporate approved surge withstand capabilities, as required by ANSI/IEEE C62.41-1980.

Built to protect: Remote computer peripherals, copiers and laser printers, process control equipment, CNC machinery, programmable logical controls (PLC), photographic equipment and entire installations.

Specifications

Input	
Voltage:	220, 230 or 240 Volt AC (Refer "Ordering Details" for configuration options)
Frequency:	50 Hz
Input Voltage Range:	+ 10%, -20% (±40%)
Protection:	ANSI/IEEE C62.41-1980 A and B waveforms suppressed to safe levels.
Output	
Nominal Voltage:	220 or 240 Volt AC
Frequency:	50 Hz
Voltage Regulation:	±3% for +10%, -20% input. +5%, -8% for ±40% input.
Control:	AC on/off switch
Power Efficiency: 90%	
Response/Correction Time:	Return to regulation envelope within 30 msec.
Dynamic Response:	Continuous and smooth correction for input voltage fluctuations.
Overloads	200% of rated load for 10 seconds without damage. 500% of rated load for 10 msec.
Electrical Noise Attenuation	
Transverse Mode:	60 dB typical, (80 dB max.) 4kHz to 20 MHz
Common Mode:	120 dB typical, (140 dB max.) 2kHz to 1 MHz
Output Harmonic	Less than 3% THD on linear loads.
Distortion	No greater than 5% on typical computer loads.
Environmental	
Operating Ambient:	-20°C to +50°C
Relative Humidity:	0 to 95% non-condensing
Ventilation:	Natural Convection Cooled
Status Indication	
Power On:	Amber lamp
Overload Protection	Output short circuit protection
Warranty	5 years

Ordering details

Rated Output kVA	Part Number	Configuration	Weight (kg)	Enclosure Size (Note 5)
3	200-26-730	1 Phase only	100	1
3	200-26-730-00**	1 Phase only	100	1
5	200-26-750	1 Phase only	155	2
5	200-26-750-HO***	1 Phase only	155	2
7.5	200-26-775****	1 or 3 Phase	215	2
9	200-26-790****	1 or 3 Phase	270	2
12	200-26-812M****	1 or 3 Phase	360	3
15	200-26-815****	1 or 3 Phase	420	3
18	200-26-818****	1 or 3 Phase	520	3
22.5	200-46-822****	3 Phase only	595	4

Notes:

1. * For units with nominal Ph-N voltage of 220V specify 44 (as in 200-44-730) for 3-18kVA units and 24 (as in 200-24-822) for 22.5kVA model. For units with nominal Ph-N voltage of 230V specify 25 for 3-18kVA units and 35 for 22.5kVA.
2. ** Units fitted with WIP 15 plug and 4 x 10/15 Amp screw sockets
3. *** Units fitted with input terminal block and 4 x 10/15 amp screw sockets
4. To avoid nuisance tripping of input circuit breakers, we recommend the use of "D" curve or motor start type circuit breakers. Current rating should be at least one size larger than input current stated on unit data plate. See manual or consult your sales representative for further details.
5. Enclosure Sizes (mm): Size 1: 600 (H) x 400 (W) x 440 (D)
   Size 2: 995 (H) x 525 (W) x 550 (D)
   Size 3: 990 (H) x 800 (W) x 550 (D)
   Size 4: 1236 (H) x 800 (W) x 550 (D)
6. **** 3 Phase loads to be star connected only. Power Conditioners NOT to be used for Delta loads.

Sola 26 Multivolt

Frequently, power transformers are incorporated with process equipment to provide specific voltages for sensitive equipment. Unfortunately, outside interferences will vary the output from these transformers, causing the sensitive equipment to malfunction or fail. The Sola 26 range of power conditioners provide an immediate answer to this inconvenience, by suppressing and isolating power line interference and regulating the output voltage to ±5%. These hardwired power conditioners provide the unique feature of selectable input tap for greater versatility and output voltage taps are also provided. These features make the Sola 26 power conditioner the ideal choice for a regulated power supply where a three phase source is provided without a neutral line.

The Sola 26 power conditioner provides superior noise rejection, exceeding 120 dB common mode and 60 dB transverse mode noise rejection. By nature of design, this product is a true, ultra isolation device. The Sola 26 is available from 500VA through to 15kVA as a panel mounting, hardwired unit.

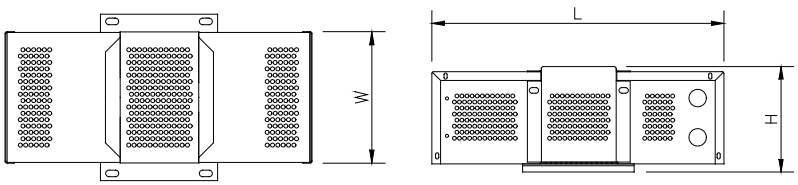
Built to protect

- Remote computer peripherals
- Copiers and laser printers
- Process control equipment
- CNC machinery
- Programmable logical controls (PLC)
- Photographic equipment
- Entire installations

specifications	
Input	
Voltage:	500-5000VA Models: Field selectable 110/120V or 220/240 or 380/415V
	7.5-15kVA Models: Field selectable 220/240V or 380/415V
Frequency:	50 Hz
Output	
Voltage:	Field Selectable - 110/120/220/240 Volts AC
Voltage Regulation:	± 5% for an input line variation of ±15%. + 5%, -8% for ± 40% input.
Output Harmonic Distortion	Less than 3% THD on linear loads. No greater than 5% on typical computer loads.
Efficiency	85% at full load.
Dropout	No loss of output for line loss of 3 msec.
Electrical noise rejection	
Transverse Mode:	> 60 dB
Common Mode:	> 120 dB
Operating temperature	-20°C to +50°C
Warranty	5 years

Ordering details

Rated Output VA	Part Number	Height (H) (mm)	Width (W) (mm)	Length (L) (mm)	Weight (kg)
500	2605-0500M	162	200	362	18
1000	2605-1000M	170	200	460	28
2000	2605-2000M	244	288	467	51
3000	2605-3000M	244	288	501	73
5000	2605-5000M	244	288	736	110
*10000	2605-10kM	244	630	736	221
*15000	2605-15kM	244	987	736	350



Typical Single Module Arrangement

Tools and Programs Available

Power Quality Sales Web

PQ Salesweb is a password-protected website that contains Power Quality product information for Eaton channel partners of Eaton's power quality product portfolio. The website has news, product information, marketing and sales tools you can benefit from in your daily Eaton sales.

To register go to website **www.pqsalesweb.eaton.com**
Access is granted upon approval of registration.

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How does it work?
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To register go to website **www.powerquality.eaton.com** and click on icon Become an Eaton Partner
Please allow some time for your access to be granted

ANZ Designer Tool-kit

Eaton's Designer Tool-Kit is a valuable online resource for consultants where you'll find specifications for our Electrical Power Quality equipment. If you're running a project based around one of our UPS systems, our Designer Tool-Kit will help you plan it.

To register go to website **www.powerquality.eaton.com** click on icon Designer Tool-Kit

NATSPEC

NATSPEC manages a comprehensive national specification system endorsed by government and professional bodies. NATSPEC, the National Building Specification, is for all building structures with specialist packages for architects, interior designers, landscape architects, structural engineers, service engineers and domestic owners. AUS-SPEC is the Local Government specification system for the life-cycle management of assets. Packages include Urban and Open Space, Roadworks and Bridges, Public Utilities, and Maintenance. NATSPEC is also responsible for the National BIM Guide and its associated documents. Eaton is an approved NATSPEC Partner.

To download Eaton's branded worksection **www.natspec.com.au/Products_Services/branded_ws.asp**

A branded worksection is a technical worksection produced in NATSPEC format in conjunction with Eaton. Branded worksections provide specifiers with an alternative to the generic worksection where a particular product has been selected at the design stage.

Notes

Eaton Data Centre Solutions

- Power quality
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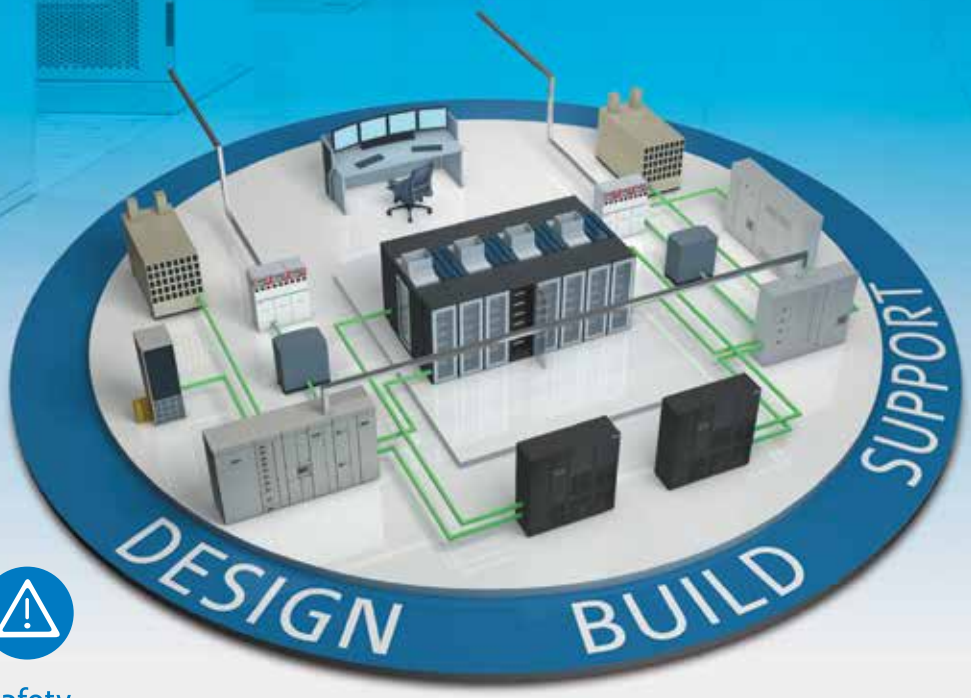
- Monitoring solutions
- Project management and services



Reliability Efficiency Safety

Solutions that deliver reliable, efficient and safe power

At Eaton, we know that your data center is the backbone of your business. This is why we offer innovative, mission critical solutions that obtain higher availability systems, improve efficiency and offer flexible, scalable solutions that meet the specific needs of your business.

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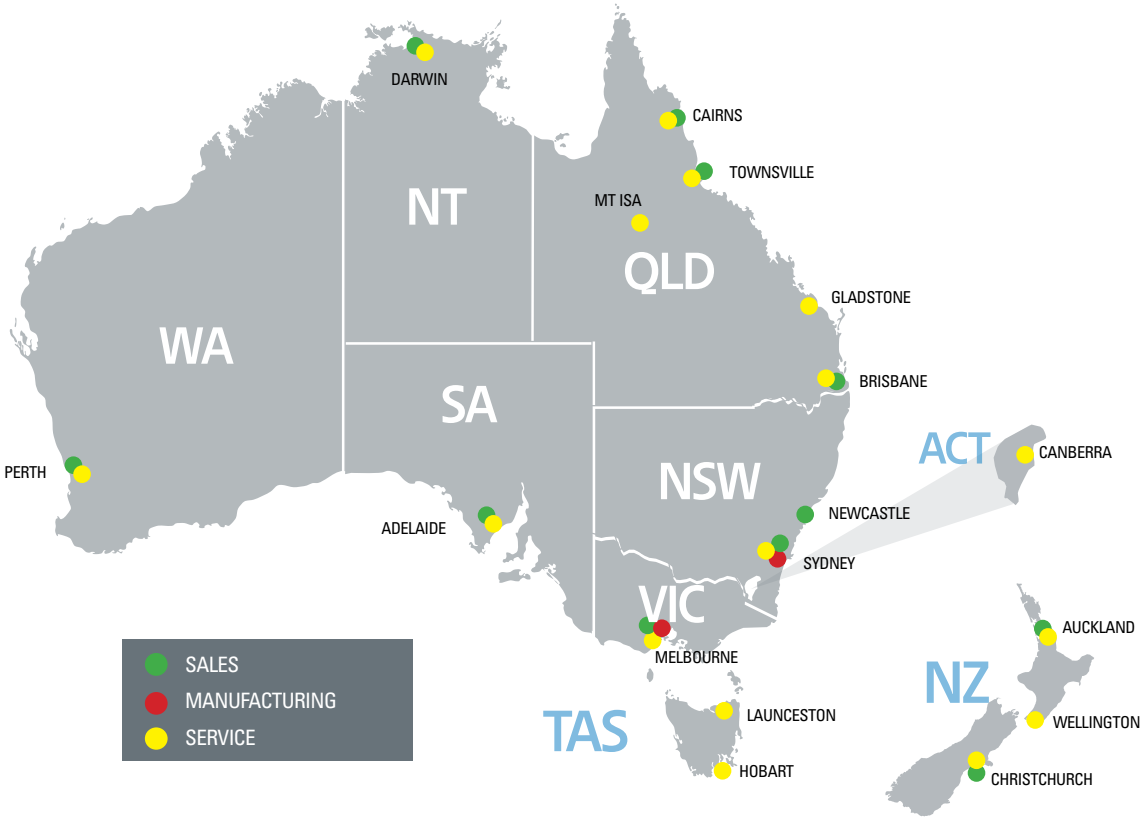

24 Hour Emergency Service Hotline
AUST 1300 303 059 NZ 0508 697 378

Eaton Australia:
Eaton Sales 1300 877 877
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Eaton Industries Pty. Ltd.
Electrical Sector
10 Kent Road Mascot,
NSW 2020 Australia
1300 UPS UPS (1300 877 877)
www.eaton.com/powerquality

Eaton New Zealand:
Eaton Sales 0508 328 6669
Eaton Service 0508 697 378

Eaton Industries Company
Electrical Sector
First Floor, Enable House,
106 Wrights Road, Addington,
Christchurch 8041 NZ
0508 EATON NZ (0508 328 6669)
www.eaton.com/powerquality

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