

# Power infrastructure Power Terms



  
**DSM DISTRIBUTION**  
Globally Connected Locally Based

**EATON**

*Powering Business Worldwide*

# Eaton Ellipse ECO

500/650/800/1200/1600 VA



Eaton Ellipse ECO range



Eaton Ellipse ECO easy integration



## Energy-efficient power protection for business computers

- With an efficient electrical design and the EcoControl function (USB models), which automatically disables peripherals when the master device is turned off, the Eaton Ellipse ECO helps you make energy savings of up to 25% 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 either four (500/650/800 models) or eight outlets (1200/1600 models) with Schuko (DIN) or French (FR) format for easy connection to typical computer configurations with peripherals. IEC models are also available.
- 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 USB models are designed to be compatible with a wide variety of different computer models. Eaton UPS companion 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

- Unlimited warranty for the connected computer equipment (EU countries and Norway)
- 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.



- 5 6 IEC 10 A sockets, including 4 Powershare programmable sockets.
- 6 Communication card slot.

## Eaton EX UPS

- 1 LCD Multilingual display  
-6 languages,  
-displays measurements,  
-displays alarms,  
-access to control and set-up menus.
- 2 Panel for batteries replacement (Hot-swappable)



### TECHNICAL SPECIFICATIONS

	700	1000	1500
Rating (VA/W)	700 VA / 630 W	1000 VA / 900 W (1)	1500 VA / 1350 W (1)
Format	Mini tower		

<b>Electrical characteristics</b>			
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 to 284 V - 40 to 70 Hz for load level <20% / <33% / <66% / >=66% of rated output		
Output voltage and frequency	230 V (adjustable to 200/208/220/240/250 V), 50/60 Hz auto-select or frequency converter mode (2)		
<b>Connections</b>			
Input	1 IEC C14 (10 A) socket		
Outputs	6 IEC C13 (10 A) sockets		
Remotely controlled Powershare sockets	2 independent groups: 2 + 1 IEC C13 (10 A) sockets		
<b>Battery</b>			
Typical backup times for 50 and 70% load (4)			
EX	16 min / 10 min	18 min / 12 min	13 min / 9 min
EX + 1 EXB	/	75 min / 50 min	50 min / 35 min
EX + 4 EXB	/	250 min / 200 min	180 min / 120 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		
<b>Interfaces</b>			
Indicators and display	3 LEDs + adjustable multilingual display: display of measurements, access to control and set-up menus		
Communication ports	1 USB port + 1 RS232 serial port and relay contacts (3) + 1 mini terminal block for remote ON/OFF and emergency stop		
Communications card slots	1 slot for NMC Minislot card (included in Netpack version) or NMC ModBus/JBus or MC Contacts/Serial		
<b>Operating conditions, standards and approvals</b>			
Operating temperature noise level	0°C to 40°C continuous, 45 dBA		
Performance - Safety - EMC	IEC/EN 62 040-1, IEC/EN 62 040-2, IEC/EN 62 040-3 (VFI-SS-113), IEC/EN 60 950-1 (RD)		
Approvals	CE, TÜV GS, CB report, cTÜV-US		
<b>Dimensions (H x W x D) / Weight</b>			
EX	242 x 153 x 440 mm / 12.5 kg	242 x 153 x 440 mm / 15 kg	242 x 153 x 490 mm / 18 kg
EX EXB	/	242 x 153 x 440 mm / 21 kg	
<b>Customer Service &amp; Support</b>			
2 years warranty	Standard product exchange, including the battery		
Warranty+	Optional 3-years warranty (depending on the country please visit <a href="http://www.eaton.eu/powerquality">www.eaton.eu/powerquality</a> )		

1: Maximum rating with EXB battery units: Eaton EX 1000 = 800 W, Eaton EX 1500 = 1200 W. 2: Derated by 15% when used as a frequency converter. 3: USB and RS232 serial ports cannot be used simultaneously. 4: Runtimes are shown at 0.7 power factor. Backup times are approximate and may vary with equipment, configuration, battery age, temperature, etc.

Part Numbers	700	1000	1500
EX	68 180	68 181	68 183
EX EXB	/	68 185	68 185

# Eaton 9SX UPS

5/6/8/11 kVA



9SX LCD tilts 45° for ease-of-viewing

#### Advanced protection for:

- Infrastructure, Industrial and Medical
- IT, Networking, Storage and Telecom



## High performance Online double-conversion UPS

### Performance and Efficiency

- Double-conversion topology. The Eaton 9SX constantly monitors power conditions and regulates voltage and frequency.
- With up to 95% 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 recognized 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 is included with each UPS.



# Eaton 9SX UPS

- 1 Remote Off/On and Remote Power Off connectors
- 2 Slot for Network-MS, ModBus-MS or Relay-MS cards
- 3 External battery module (EBM) connector with automatic detection (RJ11)



- 4 DB 9 with output contacts
- 5 USB and serial ports
- 6 Input/Output connections

Eaton 9SX 11 kVA

## TECHNICAL SPECIFICATIONS

	5 kVA	6 kVA	8 kVA	11 kVA
Rating (kVA/kW)	5 kVA/4.5 kW	6 kVA/5.4 kW	8 kVA/7.2 kW	11 kVA/10 kW
<b>Electrical Characteristics</b>				
Technology	On-line double-conversion with Power Factor Correction (PFC) system			
Nominal voltage	200/208/220/230/240 V		200/208/220/230/240 V/250 V	
Input voltage range	176-276 V without derating (up to 100-276 V with derating)			
Output voltage/THDU	200/208/220/230/240 V +/- 1%; THDU <2%		200/208/220/230/240/250 V +/- 1%; THDU <2%	
Input frequency range/THDI	40-70 Hz, 50/60 Hz 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	3:1/90 A	3:1/90 A	3:1/120 A	3:1/150 A
Overload capacity	102-110% : 120 s, 110-125%: 60 s, 125-150%: 10 s, >150%: 500 ms		102-110% : 120 s, 110-125%: 60 s, 125-150%: 10 s, >150%: 900 ms	
<b>Connections</b>				
Input	Terminal block (up to 10 mm <sup>2</sup> )		Terminal block (up to 16 mm <sup>2</sup> )	
Outputs	Terminal block + 2 controlled groups of 4 IEC C13 (10 A) + 2 IEC C19 (16 A)		Terminal block	
<b>Batteries</b>				
Typical backup times at 50 and 70% load*				
9SX	13/10 min	11/8 min	15/10 min	9/5 min
9SX + 1 EBM	60/40 min	48/34 min	38/25 min	22/15 min
9SX + 4 EBM	220/150 min	170/120 min	120/82 min	80/55 min
Battery management	ABM <sup>®</sup> and Temperature compensated charging method (user selectable), automatic battery test, deep discharge protection, automatic recognition of external battery units.			
<b>Communication</b>				
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 or Relay-MS cards.			
<b>Operating conditions, standards and approvals</b>				
Operating temperature	0 to 40°C continuous			
Noise level	<45 dB	<45 dB	<48 dB	<50 dB
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 (5 & 6kVA only)			
<b>Dimensions H x W x D/Weight</b>				
UPS	440(19 ")*130(3U)*685 mm/48 kg	440(19 ")*130(3U)*685 mm/48 kg	440(19 ")*260(6U)*700 mm/84 kg	440(19 ")*260(6U)*700 mm/86 kg
EBM	440(19 ")*130(3U)*645 mm/68 kg	440(19 ")*130(3U)*645 mm/68 kg	440(19 ")*130(3U)*680 mm/65 kg	440(19 ")*130(3U)*680 mm/65 kg
Power module	-	-	440(19 ")*130(3U)*700 mm/19 kg	440(19 ")*130(3U)*700 mm/21 kg
<b>Customer Service and Support</b>				
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

Parts Numbers	9SX 5 kVA	9SX 6 kVA	9SX 8 kVA	9SX 11 kVA
UPS*	-	-	9SX8Ki	9SX11Ki
UPS with Rack Kit*	9SX5KiRT	9SX6KiRT	9SX8KiRT	9SX11KiRT
EBM	-	-	9SXEBM240	9SXEBM240
EBM with Rack Kit	9SXEBM180RT	9SXEBM180RT	-	-
Power Module	-	-	9SX8KiPM	9SX11KiPM
HotSwap Maintenance ByPass	MBP6Ki	MBP6Ki	MBP11Ki	MBP11Ki
Transformer Module	TFMR11Ki	TFMR11Ki	TFMR11Ki	TFMR11Ki
Supercharger with Rack Kit	-	-	SC240RT	SC240RT
1.8m Battery Connection Cable	EBMCBL180	EBMCBL180	EBMCBL240	EBMCBL240
Battery Integration System	BINTSYS	BINTSYS	BINTSYS	BINTSYS
Rack Kit	9RK	9RK	9RK	9RK

\* For 8 & 11 kVA UPS: Power Module + EBM





3000W in only 2U!



VA =  
Watt

**Advanced protection for:**

- Small and Medium Datacentre
- IT, Networking, Storage and Telecom
- Infrastructure, Industrial and Medical



**Energy efficient power protection**

**Performance and efficiency**

- 9PX is the first UPS in its class to provide Unity power factor (VA=W). It delivers 11% more power than any other UPS as well as powering more servers with equivalent VA ratings and lower power factors.
- Energy Star qualified, the 9PX provides the highest efficiency level to reduce energy and cooling costs.
- Double conversion topology. The Eaton 9PX constantly monitors power conditions and regulates voltage and frequency.
- With a versatile Rack/Tower form factor, the 9PX is the most compact solution delivering up to 3000W in only 2U.

**Manageability**

- The graphical LCD display provides clear information on the UPS's status and measurements on a single screen. Enhanced configuration capabilities are also available.
- 9PX 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.
- Load segment control enables prioritised shutdowns of non-essential equipment to maximize battery runtime for critical devices.
- 9PX offers Serial and USB connectivity, plus an extra slot for an optional communication card. Eaton's Intelligent Power Software seamlessly integrates with leading virtualisation environments and cloud orchestrations tools.

**Availability and flexibility**

- 9PX UPS is available in RT2U format (optimised for rack mounting) or RT3U (for tower or short-depth racks), pedestal and rail kits are included with all models.
- The internal bypass allows service continuity in case of internal fault, a maintenance bypass is also available (as standard on HotSwap version) for easy replacement of the UPS.
- 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 4 external hot-swappable battery modules, able to run systems for hours if necessary.



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