## Eaton 9SX UPS

5/6/8/11 kVA



9SX 11kVA



9SX LCD tilts 45° for ease-of-viewing

#### Advanced protection for:

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



# FAT•N

Powering Business Worldwide

#### 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 lockedup 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.

### 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/Ouput connections

Crest factor/short circuit current         3:1/90A         3:1/90A         3:1/120A         3:1/120A         3:1/150A           Overload capacity         102–110%: 120s, 110–125%: 60s, 125–150%: 10s, >150%: 500ms         1020ms	Technical Specifications	5kVA	6kVA	8kVA	11kVA			
Tachnology	Rating (kVA/kW)	5kVA/4.5kW	6kVA/5.4kW	8kVA/7.2kW	11kVA/10kW			
Nominal voltage   200/208/220/230/240V   200/208/220/230/240V/250V   Input voltage range   176-276V without derating (up to 100-276V with derating)	Electrical Characteristics		<u>'</u>					
Input voltage range	Technology	On-line double conversion with I	Power Factor Correction (PFC) system					
Output voltage/THDU         200/208/220/230/240V +/− 1%; THDU <2%         200/208/220/230/240/250V +/− 1%; THDU <2%           Input frequency range/THDI         40-70Hz, 50/60Hz autoselection, frequency converter as standard, THDI <5%         200/208/220/230/240/250V +/− 1%; THDU <2%           Efficiency         Up to 94% in Online mode, 98% in Hi-Efficiency mode         Up to 95% in Online mode, 98% in Hi-Efficiency mode           Certs factor/short circuit current         31/90A         31/90A         31/190A         31/1750A           Overload capacity         102-110%: 120s, 110-125%: 60s, 125-150%: 10s, >150%: 500ms         102-110%: 120s, 110-125%: 60s, 125-150%: 10s, >150%           Connections         Terminal block (up to 10 mm²)         Terminal block (up to 16 mm²)           Outputs         Terminal block (up to 10 mm²)         Terminal block         Terminal block           Outputs         Terminal block (up to 10 mm²)         Terminal block         Terminal block           Outputs         Terminal block (up to 10 mm²)         Terminal block         T	Nominal voltage	200/208/220/230/240V 200/208/220/230/240V/250V						
Input frequency range/THDI	Input voltage range	176-276V without derating (up to	176-276V without derating (up to 100–276V with derating)					
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         31/90A         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%           Connections         Input         Terminal block (up to 10 mm²)         Terminal block (up to 16 mm²)         Terminal block (up to 16 mm²)           Batterles         Typical backup times at 50 and 70% load*           9SX         13/10 min         11/8 min         15/10 min         9/5min           9SX + 1 EBM         60/40 min         48/34 min         38/25 min         22/15 min           9SX + 2 EBM         220/150 min         170/120 min         120/82 min         80/55 min           Battery management         ABM** and Temperature compensated charging method (user selectable), automatic battery test, deep discharge protection, autorecognition of external battery units.           Communication ports           Communication ports         1 USB port, 1 R5232 serial port (USB and R5232 ports cannot be used simultaneously), 4 dry contacts (DB9), 1 mini terminal block of the port of the	Output voltage/THDU	200/208/220/230/240V +/- 1%; TH	DU <2%	200/208/220/230/240/250V +/- 1%; THDU <2%				
Crest factor/short circuit current         3:1/90A         3:1/90A         3:1/120A         3:1/120A         3:1/150A           Overload capacity         102—110%: 120s, 110—125%: 60s, 125—150%: 10s, >150%: 500ms         102—110%: 120s, 110         100 cttttttttttttttttttttttttttttttttttt	Input frequency range/THDI	40-70Hz, 50/60Hz autoselection, fre	40-70Hz, 50/60Hz autoselection, frequency converter as standard, THDI < 5%					
Overload capacity         102−110%: 120s, 110−125%: 60s, 125−150%: 10s, >150%: 500ms         102−110%: 120s, 110−125%: 60s, 125−150%: 10s, >150%           Connections         Terminal block (up to 10 mm²)         Terminal block (up to 16mm²)           Dutput         Terminal block (up to 10 mm²)         Terminal block (up to 16mm²)           Batteries           Typical backup times at 50 and 70% load*           9SX         13/10 min         11/8 min         15/10 min         15/10 min         9/5min           9SX + 4 EBM         60/40 min         48/34 min         38/25 min         22/15 min           Battery management         ABM® and Temperature compensated charging method (user selectable), automatic battery test, deep discharge protection, autorecognition 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 min terminal block of and 1 for remote power Off.           Communication slot         1 Isol for Network-MS card, ModBus-MS or Relay-MS cards.           Operating temperature         0 to 40°C continuous           Noise level	Efficiency	Up to 94% in Online mode, 98% i	in Hi-Efficiency mode	Up to 95% in Online mode, 98% in Hi-Efficiency mode				
Depart	Crest factor/short circuit current	3:1/90A	3:1/90A	3:1/120A	3:1/150A			
Input   Terminal block (up to 10 mm²)   Terminal block (up to 16 mm²)	Overload capacity	102–110% : 120s, 110–125%: 60s,	125–150%: 10s, >150%: 500ms	102-110% : 120s, 110-125%: 60s, 12	25–150%: 10s, >150%: 900ms			
Outputs         Terminal block + 2 controlled groups of 4 IEC C13 (10A) + 2 IEC C19 (16A)         Terminal block           Batteries           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 + 1 EBM         220/150 min         170/120 min         120/82 min         80/55 min           Battery management         ABM® and Temperature compensated charging method (user selectable), automatic battery test, deep discharge protection, autorecognition of external battery units.         Communication         1 USB port, 1 RS232 serial port (USB and RS232 ports cannot be used simultaneously), 4 dry contacts (DB9), 1 mini terminal block Off and 1 for remote power Off.         Communication slot         1 slot for Network-MS card, ModBus-MS or Relay-MS cards.         Interminal block Off and 1 for remote power Off.         Interminal block Off and 1 for remote power Off.         Interminal block Off and 1 for remote power Off.         Interminal block Off and 1 for remote power Off.         Interminal block Off and 1 for remote power Off.         Interminal block Off and RS232 ports cannot be used simultaneously), 4 dry contacts (DB9), 1 mini terminal block Off and 1 for remote power Off.         Interminal block Off and RS232 ports cannot be used simultaneously), 4 dry contacts (DB9), 1 mini terminal block Off and I for remote power Off.         Interminal block Off a	Connections		<u>'</u>					
### Description of Engineer Service Se	Input	Terminal block (up to 10 mm²)	Terminal block (up to 10 mm²)		Terminal block (up to 16mm²)			
Typical backup times at 50 and 70% load*           9SX         13/10 min         11/8 min         15/10 min         9/5min           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® and Temperature compensated charging method (user selectable), automatic battery test, deep discharge protection, automatic battery test, deep discharge pro	Outputs	Terminal block + 2 controlled gro	Terminal block + 2 controlled groups of 4 IEC C13 (10A) + 2 IEC C19 (16A) Terminal block					
9SX         13/10 min         11/8 min         15/10 min         9/5min           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® and Temperature compensated charging method (user selectable), automatic battery test, deep discharge protection, autorecognition 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 Off and 1 for remote power Off.           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         <45.0B	Batteries		<u>'</u>					
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® and Temperature compensated charging method (user selectable), automatic battery test, deep discharge protection, autorecognition of external battery units.         Total Temperature compensated charging method (user selectable), automatic battery test, deep discharge protection, autorecognition of external battery units.           Communication           USB port, 1 RS232 serial port (USB and RS232 ports cannot be used simultaneously), 4 dry contacts (DB9), 1 mini terminal block Off and 1 for remote power Off.           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	Typical backup times at 50 and 70% load*							
9SX + 4 EBM 220/150 min 170/120 min 120/82 min 80/55 min  Battery management ABM® and Temperature compensated charging method (user selectable), automatic battery test, deep discharge protection, autore 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 Off and 1 for remote power Off.  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	9SX	13/10 min	11/8 min	15/10 min	9/5min			
ABM® and Temperature compensated charging method (user selectable), automatic battery test, deep discharge protection, autorecognition 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 Off and 1 for remote power Off.  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  45dB  48db  50db  50db  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  Dimensions H x W x D/Weight  UPS  440(19")*130(3U)*685mm/48kg  440(19")*130(3U)*685mm/48kg  440(19")*130(3U)*685mm/48kg  440(19")*130(3U)*685mm/68kg  440(19")*130(3U)*685mm/68kg  440(19")*130(3U)*685mm/68kg  440(19")*130(3U)*680mm/65kg  440(19")*130(3U)*680mm/65kg  440(19")*130(3U)*680mm/65kg  440(19")*130(3U)*680mm/65kg  440(19")*130(3U)*685mm/68kg	9SX + 1 EBM	60/40 min	48/34 min	38/25 min	22/15 min			
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 off and 1 for remote power Off.	9SX + 4 EBM	220/150 min	170/120 min	120/82 min	80/55 min			
1 USB port, 1 RS232 serial port (USB and RS232 ports cannot be used simultaneously), 4 dry contacts (DB9), 1 mini terminal block Off and 1 for remote power Off.    Communication slot	Battery management		ABM® and Temperature compensated charging method (user selectable), automatic battery test, deep discharge protection, automatic recognition of external battery units.					
Off and 1 for remote power Off.  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 <45dB <48db <50db <50db  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  Dimensions H x W x D/Weight  UPS 440(19")*130(3U)*685mm/48kg 440(19")*130(3U)*685mm/48kg 440(19")*260(6U)*700mm/84kg 440(19")*260(6U)  EBM 440(19")*130(3U)*645mm/68kg 440(19")*130(3U)*645mm/68kg 440(19")*130(3U)*680mm/65kg 440(19")*130(3U)*680mm/65k	Communication							
Operating conditions, standards and approvals           Operating temperature         0 to 40°C continuous           Noise level         <45dB	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.					
Operating temperature         0 to 40°C continuous           Noise level         <45dB         <48db         <50db           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           Dimensions H x W x D/Weight           UPS         440(19")*130(3U)*685mm/48kg         440(19")*130(3U)*685mm/48kg         440(19")*130(3U)*685mm/68kg         440(19")*130(3U)*685mm/68kg         440(19")*130(3U)*685mm/68kg         440(19")*130(3U)*685mm/66kg         440(19")*130(3U)*685mm/66kg<	Communication slot	1 slot for Network-MS card, Mod	1 slot for Network-MS card, ModBus-MS or Relay-MS cards.					
Noise level         <45dB	Operating conditions, standards and app	provals						
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           Dimensions H x W x D/Weight           UPS         440(19")*130(3U)*685mm/48kg         440(19")*130(3U)*685mm/48kg         440(19")*260(6U)*700mm/84kg         440(19")*260(6U)           EBM         440(19")*130(3U)*645mm/68kg         440(19")*130(3U)*645mm/68kg         440(19")*130(3U)*645mm/68kg         440(19")*130(3U)*685mm/65kg         440(19")*130(	Operating temperature	0 to 40°C continuous						
EMC, performance         IEC/EN 62040 - 2 , FCC Class A, IEC/EN 62040-3 (Performance)           Approvals         CE, CB report (TUV), UL           Dimensions H x W x D/Weight         440(19")*130(3U)*685mm/48kg         440(19")*130(3U)*685mm/48kg         440(19")*260(6U)*700mm/84kg         440(19")*260(6U)           EBM         440(19")*130(3U)*645mm/68kg         440(19")*130(3U)*645mm/68kg         440(19")*130(3U)*645mm/68kg         440(19")*130(3U)*645mm/68kg         440(19")*130(3U)*645mm/68kg         440(19")*130(3U)*645mm/68kg	Noise level	<45dB	<45dB	<48db	<50db			
Approvals         CE, CB report (TUV), UL           Dimensions H x W x D/Weight         440(19")*130(3U)*685mm/48kg         440(19")*130(3U)*685mm/48kg         440(19")*260(6U)*700mm/84kg         440(19")*260(6U)*700mm/84kg         440(19")*260(6U)*700mm/84kg         440(19")*130(3U)*685mm/68kg         440(19")*130(3U)*645mm/68kg         440(19")*130(3U)*645mm/68kg         440(19")*130(3U)*685mm/65kg         4	Safety	IEC/EN 62040-1, UL 1778, CSA 22.	IEC/EN 62040-1, UL 1778, CSA 22.2					
Dimensions H x W x D/Weight           UPS         440(19")*130(3U)*685mm/48kg         440(19")*130(3U)*685mm/48kg         440(19")*260(6U)*700mm/84kg         440(19")*260(6U)           EBM         440(19")*130(3U)*645mm/68kg         440(19")*130(3U)*645mm/68kg         440(19")*130(3U)*685mm/68kg         440(19"	EMC, performance	IEC/EN 62040 -2 , FCC Class A, IE	IEC/EN 62040 -2 , FCC Class A, IEC/EN 62040-3 (Performance)					
UPS 440(19")*130(3U)*685mm/48kg 440(19")*130(3U)*685mm/48kg 440(19")*260(6U)*700mm/84kg 440(19")*260(6U)* EBM 440(19")*130(3U)*645mm/68kg 440(19")*130(3U)*645mm/68kg 440(19")*130(3U)*680mm/65kg 440(19")*130(3U)*645mm/68kg	Approvals	CE, CB report (TUV), UL	CE, CB report (TUV), UL					
EBM 440(19")*130(3U)*645mm/68kg 440(19")*130(3U)*645mm/68kg 440(19")*130(3U)*680mm/65kg 440(19")*130(3U)	Dimensions H x W x D/Weight							
the first transfer to the transfer transfer to the transfer transf	UPS	440(19")*130(3U)*685mm/48kg	440(19")*130(3U)*685mm/48kg	440(19")*260(6U)*700mm/84kg	440(19")*260(6U)*700mm/86kg			
	EBM	440(19")*130(3U)*645mm/68kg	440(19")*130(3U)*645mm/68kg	440(19")*130(3U)*680mm/65kg	440(19")*130(3U)*680mm/65kg			
Power module – 440(1917)*130(3U)*/00mm/19kg 440(1917)*130(3U)	Power module	-	=	440(19")*130(3U)*700mm/19kg	440(19")*130(3U)*700mm/21kg			
Customer Service and Support	Customer Service and Support							
Warranty 2 years warranty	Warranty	2 years warranty						

Parts Numbers	9SX 5kVA	9SX 6kVA	9SX 8kVA	9SX 11kVA
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

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













