

Eaton 9390 UPS

40 - 160 kVA



Advanced power protection for:

- Data centers
- Financial services
- Building management
- Telecommunications
- Industrial automation equipment
- Healthcare



Powering Business Worldwide

Double conversion UPS

Premium power performance

- Double conversion provides the highest level of protection available by isolating the output power from all input anomalies.
- With a transformer-free design and sophisticated sensing and control circuitry the 9390 UPS delivers an efficiency of up to 94% in double conversion.
- Enhanced efficiency of up to 99% can be achieved with unique Energy Saver System (ESS).
- Active power factor correction (PFC) provides unbeatable 0,99 input power factor and less than 4,5 percent ITHD, thus eliminating interference with other critical equipment in the same network and enhancing compatibility with generators.
- The UPS is optimized for protecting modern 0,9 p.f. rated IT equipment without the need to oversize.

True reliability

- Patented Powerware Hot Sync® technology makes possible to parallel up to seven UPSs to increase availability or add capacity. The technology enables load sharing without any communication line, thus eliminating single point of failure.
- ABM® technology charges batteries only when necessary, preventing batteries corrosion and prolonging batteries service life by up to 50%.
- Increased overall reliability of the UPS due to the high level of efficiency.

Extensive configurability

- The 9390 offers small footprint compared to competitive UPS offerings. Cabling can enter the UPS from either the top or bottom of the cabinet to provide easier and flexible installation.
- A multilingual graphical LCD display makes possible to monitor the UPS status easily.
- Wide software and connectivity options provide monitoring, management and shutdown capabilities over the network.
- Connectivity options are available to suit nearly any communication requirements, from standard serial communications to secure remote monitoring over the Web.

Cost savings and sustainability

- High level of system efficiency leads to utility cost saving, extension of battery run times and cooler operating conditions within the UPS, which extends the life of components.
- As the compact 9390 can be installed against back and side walls, customers have more location options, installation is faster and easier, deployment costs are lower and more valuable data centre space can be saved for future needs.
- A single technical platform used in Eaton's three-phase UPS products guarantee easy upgrades, similarity or service trainings and documentation, thus lowering total cost of ownership.
- A range of service agreement options can be easily customized for customers needs and budget.
- High operating efficiency and the use of sustainable materials generate dramatic savings in carbon footprint as compared to competitive UPS systems.

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TECHNICAL SPECIFICATIONS

UPS output power rating (0,9 p.f.)

kVA	40	60	80	100	120	160
kW	36	54	72	90	108	144

General

Efficiency in double conversion mode (full load)	94%
Efficiency in double conversion mode (half load)	92,5%
Efficiency in Energy Saver System (ESS)	up to 99%
Distributed parallelling with Hot Sync technology	6 + 1
Field upgradeable	yes
Inverter/rectifier topology	transformer-free IGBT with PWM
Audible noise	<65 dB
Altitude (max)	1000 m without derating (max 2000 m)

Input

Input wiring	3 ph + N + PE
Nominal voltage rating (configurable)	220/380, 230/400, 240/415 V 50/60 Hz
Input voltage range	Low -20% at 100% load/-50% at 50% load without battery discharge; High +10%/max +20%
Input frequency range	45-65 Hz
Input power factor	0,99
Input ITHD	less than 4,5%
Soft start capability	Yes
Internal backfeed protection	Yes

Output

Output wiring	3 ph + N + PE
Nominal voltage rating (configurable)	220/380, 230/400, 240/415 V 50/60 Hz

Output UTHD	<3% (100% linear load); <5% (reference non linear load)
Output power factor	0,9 (e.g. 72 kW at 80 kVA)
Permitted load power factor	0,7 lagging - 0,8 leading
Overload on inverter	10 min 100-110%; 30 sec 110-125%; 10 sec 125-150%; 300 ms >150%
Overload when bypass available	Continuous 100-110%, 10 min 110-150%, 5 ms 1000% Note! Bypass fuses may limit the overload capability

Battery

Type	Maintenance free VRLA batteries, NiCd
Charging method	ABM technology or Float
Temperature compensation	Optional
Battery nominal voltage (lead-acid)	480 V (40 x 12 V, 240 cells)
Charging current / Model	40 60 80 100 120 160
Default A	10 20 20 30 30 40
Max* A	20 40 40 60 60 80

*May be limited by maximum UPS input current rating

Accessories

External battery cabinets with long-life batteries, X-Slot connectivity (Web/SNMP, ModBus/Jbus, Relay, Hot Sync, ViewUPS-X remote display), Hot Sync parallel tie cabinet, integrated manual bypass up to 80 kVA, external maintenance bypass switch

Communications

X-Slot	4 communication bays
Serial ports	1 available
Relay inputs/outputs	6/3 programmable

Compliance with standards

Safety (CB certified)	IEC 62040-1, IEC 60950-1
EMC	IEC 62040-2
Performance	IEC 62040-3

Standard UPS

Part number	Description	Rating	Dimensions (HxWxD)	Weight
1028510	9390-40-N-4x0	40 kVA / 36 kW	1879x519x808 mm	257 kg
1028511	9390-60-U-4x0	60 kVA / 54 kW	1879x519x808 mm	313 kg
1028512	9390-80-N-4x0	80 kVA / 72 kW	1879x519x804 mm	313 kg
1028513	9390-100-U-4x0	100 kVA / 90 kW	1879x944x804 mm	430 kg
1028514	9390-120-N-4x0	120 kVA / 108 kW	1879x944x804 mm	430 kg
1028515	9390-120-U-4x0	120 kVA / 108 kW	1879x944x804 mm	530 kg
1028516	9390-160-N-4x0	160 kVA / 144 kW	1879x944x804 mm	530 kg

Standard external battery

1025570	9390-BAT10-S-40x38Ah (250A)	38 Ah	1877x575x773 mm	700 kg
1025572	9390-BAT10-S-200 (250A)	200 W	1877x575x773 mm	1176 kg
1026327	9390-BAT10-S-205 (250A)	205 W	1879x1125x808 mm	1270 kg
1025467	9390-BAT10-280 (250A)	280 W	1879x1125x808 mm	1444 kg
1025468	9390-BAT10-500 (250A)	500 W	1879x1125x808 mm	2188 kg
1025469	9390-BAT10-280 (400A)	280 W	1879x1125x808 mm	1444 kg
1025470	9390-BAT10-330 (400A)	330 W	1879x1125x808 mm	1625 kg
1025471	9390-BAT10-500 (400A)	500 W	1879x1125x808 mm	2188 kg

Battery racks

1026273	9390-RACK10-1x40x200W	200 W	1714x566x1246 mm	985 kg
1026274	9390-RACK10-1x40x280W	280 W	1726x690x1246 mm	1228 kg
1026275	9390-RACK10-1x40x330W	330 W	1726x690x1546 mm	1431 kg
1026276	9390-RACK10-1x40x390W	390 W	1729x690x1546 mm	1587 kg
1026277	9390-RACK10-1x40x500W	500 W	1789x690x1546 mm	1995 kg
1026278	9390-RACK10-2x40x500W	500 W	1714x866x1856 mm	3879 kg
1026279	9390-RACK10-3x40x500W	500 W	1789x690x3666 mm	5865 kg

Standard accessories

1021887	External Bypass Switch 60-80kVA (wall-mount)	wall	840x380x130 mm	17 kg
1021888	External Bypass Switch 120 kVA (wall-mount)	wall	1040x560x130 mm	25 kg
1024626	External Bypass Switch 160 kVA (wall-mount)	wall	1040x560x130 mm	25 kg
1025476	SPM-60-2	wall	700x500x250 mm	50 kg
1023540	SPM-80-4	floor	1530x520x788 mm	230 kg
1024687	9390 Tie Cabinet 3x120 kVA	floor	1879x519x808 mm	217 kg
1024506	9390 Tie Cabinet 3x160 kVA	floor	1879x519x808 mm	217 kg