Eaton Power Xpert 9395P 500kVA/500kW UPS Technical Specification

Manufacturer's declaration in accordance with IEC 62040-3

IEC 62040-3 Subclause	MODEL RATING (1.0 p.f.)	500kVA
	Model catalogue reference	9395P-600-500
	UPS options	External battery cabinets System Bypass Module (SBM)
	External paralleling (HotSync technology)	Up to 5 units with distributed bypass Up to 7 units with centralized bypass
5.1.1	UPS topology	Double conversion, IGBT converters
5.3.4	UPS performance classification	VFI-SS-111

MECHANICAL

	UPS dimensions (width x depth x height	1890 x 880 x 1880 mm
	Weight, UPS *Shipping*	1530 kg *1710 kg*
	Large External Battery Cabinet dimensions (width x depth x height)	1125 x 808x 1879 mm
	UPS Cable entry	Top and Bottom entry
	UPS Degree of protection	IP 20
	UPS colour	Black; RAL 9005

ENVIRONMENTAL

6.5.5	Acoustic noise at 1 m, in 25 °C ambient temperature	< 81dBA in double conversion, full load < 74dBA in double conversion, <72% load
4.1.4	Ambient UPS storage temperature range	- 25 °C to + 60 °C in the protective package
4.2.1.1 and 5.4.2.2 h	Ambient operating temperature range UPS	0 °C to + 40 °C *No output power derating required.* The maximum rate of temperature change shall be limited to 1.67 °C over 5 minutes (20 °C/hour), based on the ASHRAE standard 90.1-2013
	Battery	+ 20 °C to + 25 °C recommended for optimized battery life time
4.2.1.1	Relative humidity range	5 to 95%, no condensation allowed There shall be at least a 1.0 °C difference between the dry bulb temperature and the wet bulb temperature, at all times, to maintain a non-condensing environment
4.2.1.2	Maximum service altitude	1000 m (3300 ft) above sea level Maximum 2000 m (6600 ft) with 1% derating per each add 100m

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EFFICIENCY

5.3.2 r and 6.4.1.6	Efficiency in double-conversion, rated linear load	100% load	95,8 %
		75% load	96,1 %
		50% load	96,2 %
		25% load	95,1 %
	Heat dissipation in double conversion	100% load	22,2kW
		75% load	15,1kW
		50% load	9,7kW
		25% load	6,1kW
		No load	4,3 kW
	Efficiency in ESS, rated linear load	100% load	99,3 %
		75% load	99,3 %
		50% load	99,2 %
		25% load	98,7 %

ELECTRICAL CHARACTERISTICS

INPUT

5.2.1.a and 5.2.1 b	Rated input voltage		220/380V; 230/400 V; 240/415 V
	Voltage tolerance	Rectifier input	230 V -15% / +15%
		Bypass input	230 V -10% / +10%
5.2.1 c and 5.2.1 d	Rated input frequency		50 or 60 Hz, user configurable
	Frequency tolerance		45 to 65 Hz
5.2.2 a and 5.2.2 b	Number of input phases		
		Rectifier input	3 phases
		Bypass input	3 phases + neutral
5.2.2 d	Input power factor, double conversion mode		
		25-100% load	> 0,99
		10-25% load	> 0,97
5.2.2 c	Rated input current		754 A r.m.s (400V)

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5.2.2 f	Maximum input current	908 A
5.2.2 h and 5.2.2. i	Input current distortion at rated input current	< 3%
5.2.2 k	AC power distribution system compatibility	TN-S, TN, TT and IT
	Backfeed protection	Yes, internal as standard

ELECTRICAL CHARACTERISTICS

OUTPUT

5.3.2 f	Number of output phases	3 phases + neutral
5.3.2 b	Rated output voltage	220/380 V; 230/400 V; 240/415 V, configurable
5.3.2 b	Output voltage variation, steady state	< +/-1.5%
5.3.2 i	Total voltage harmonic distortion 100% linear load 100% non-linear load	 ≤ 2% < 5%
5.3.2 q	Voltage unbalance at reference unbalanced load Phase displacement at reference unbalanced load	< +/-2,5% < +/-1,0°
5.3.2 c	Rated output frequency Slew rate	50 or 60 Hz, configurable 0,7 Hz/s
5.3.2 k	Rated output power	500 kVA/ 500 kW
5.3.2 l	Overload capability On inverter	10 min 120% load 30 sec 136% load 10 sec 165% load 300 ms >165% load
	Overload capability On bypass	Continuous < 115% load 20 ms 1000% load
5.3.2 m	Output current limitation, short-circuit capability	1600 A L-N, 300 ms 1520 A L-L, 300 ms
5.3.2 o and 5.3.2 p	Load power factor Rated Permitted range	1 0.7 lagging to 0.8 leading

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ESS MODE CHARACTERISTICS

	Transfer time to double-conversion Mains available Mains failure	 No break Typically <2 ms
	Output voltage variation setting	±10% of nominal voltage, default
	Storm detection	UPS locks into double-conversion mode when three power line disturbances have forced the unit to double-conversion three times (user adjustable) within a one-hour period (user adjustable).
	High Alert mode	UPS will stay on double-conversion for one hour (user adjustable), after which the unit will automatically return to operate on ESS.

BYPASS

	Type of bypass	Static
	Bypass rating	600 kVA
	Bypass voltage range	220/380 V; 230/400 V; 240/415 V tolerance -10% / +10% of 230V
	Transfer time break	No break
	Maintenance bypass	N/A
	Rated conditional short-circuit current, I_{cc} Static Bypass	 100 kA
	Internal static bypass ultra-rapid fuse	Bussmann, 170M6417, 1400A 690Vac

BATTERY CHARACTERISTICS

5.4.2.2 d	Battery technology	12 V, VRLA
5.4.2.2 b	Battery quantity	40 blocks, 240 cells per battery string
5.4.2.2 c	Battery voltage	480V (40 blocks)
5.4.2.2 o	Recharge profile	ABM or float
5.4.2.2 q	End of discharge voltage	1.67 VPC to 1.75 VPC Configurable or automatic (load adaptive)
5.4.2.2 r	Charging current limit	240 A

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COMMUNICATION CIRCUITS		
5.6	Complete list of indications and interface devices	See User's Manual

COMPLIANCE WITH STANDARDS		
IEC 62040-1	Safety Access Degree of protection	Operator access IP 20; protection against medium sized foreign matter (incl. finger)
IEC 62040-2	Electromagnetic Compatibility Immunity Emissions	 EMC Category C3 EMC Category C3