

Eaton 9395X 1500-1700 kW UPS Technical Specification

Manufacturer's declaration in accordance with IEC 62040-3

IEC 62040-3 Subclause	MODEL RATING	1500 kVA/kW	1700 kVA/kW
	Model catalogue reference	9395XP-1500(1700)	9395XP-1700(1700)
	Number of UPM's (Uninterruptible Power Modules) and UPM rating	5 UPM's 300 kVA/kW per UPM	5 UPM's 340 kVA/kW per UPM
	UPS options:	External battery cabinets, separate battery input, integrated backfeed protection, rectifier input switch, dual feed input, G2 grade filters	
	Upgradeability	-	-
	External paralleling	Up to 3 units (15 UPM's) with HotSync technology	
5.1.1	UPS topology	Double conversion, SiC technology	
	Rated short-circuit current, I <sub>cc</sub> (fuse protection)	AC input and bypass ports: 100 kA DC-port (Common battery): 100 kA DC-port (Separate battery): 100 kA	
5.3.4	UPS performance classification	VFI-SS-111	

**MECHANICAL**

	UPS dimensions (W x D x H) Single feed Dual feed Separate battery (Small IO) Separate battery (Large IO)	3220 x 920 x 2070 mm 3620 x 920 x 2070 mm 3220 x 980 x 2503 mm 3620 x 980 x 2503 mm	3220 x 920 x 2070 mm 3620 x 920 x 2070 mm 3220 x 980 x 2503 mm 3620 x 980 x 2503 mm
	Installed weight	3400 kg	3400 kg
	UPS cable entry	Top / bottom entry	
	UPS air flow management	Front air intake, top air exhaust	
	UPS degree of protection	IP20	
	UPS colour	Black, RAL 9005	

**ENVIRONMENTAL**

6.5.5	Acoustic noise at 1 m in 25 °C ambient temperature	< 85 dBA in double conversion, full load < 72 dBA in double conversion, <50% 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 Nominal range Recommended	0 °C to +40 °C +20 °C to +25 °C	
	External 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.	



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4.2.1.2	Operating altitude	1000 m above sea level at rated maximum ambient temperature Maximum 2000 m with 1% de-rating per each additional 100m above 1000m	
	RoHS/WEEE compliancy	Yes	

**EFFICIENCY**

		1500 kVA/kW	1700 kVA/kW
5.3.2 r and 6.4.1.6	Efficiency in double-conversion, rated linear load at 400 V input		
	100% load	96.5 %	96.1 %
	75% load	97.1 %	97.0 %
	50% load	97.5 %	97.5 %
	25% load	97.5 %	97.4 %
	Heat dissipation in double conversion		
	100% load	54,4 kW	69,0 kW
	75% load	33,6 kW	39,4 kW
	50% load	19,2 kW	21,8 kW
	25% load	9,6 kW	11,4 kW
	No load	-	-

**ELECTRICAL CHARACTERISTICS**

**INPUT**

5.2.1.a and 5.2.1 b	Rated input voltage	220/380 V; 230/400 V; 240/415 V	
	Voltage tolerance Rectifier input	rated voltage -15% / +20%	rated voltage -15% / +20%
	Bypass input	rated voltage -10% / +10%	
5.2.1 c and 5.2.1 d	Rated input frequency	50 or 60 Hz	
	Frequency tolerance	45 to 65 Hz	
5.2.2 a and 5.2.2 b	Number of input phases Rectifier input	3 phases + PE	
	Bypass input	3 phases + neutral + PE	
5.2.2 d	Input power factor, double conversion mode		
	25-100% load 10-25% load	> 0,99 > 0,97	
5.2.2 c	Rated rectifier input current at 400 V	2255 A	2556 A
5.2.2 f	Maximum rectifier input current	2939 A	2939 A
	Bypass input current, nominal/maximum	2165 A / 2850 A	2454 A / 2850 A
5.2.2 h and 5.2.2 i	Input current distortion at rated input current Resistive load	< 3%	



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5.2.2 e	In-rush current	<100% of rated current	
5.2.2 k	AC power distribution system compatibility	TN-S, TN, TT, IT (4-wire)	
	Rectifier ramp-up, rectifier start and load step	Yes	
	Backfeed protection	Yes, for both rectifier and bypass lines	

**ELECTRICAL CHARACTERISTICS**

**OUTPUT**

		1500 kVA/kW	1700 kVA/kW
5.3.2 k	Output power rating	1500 kVA/kW	1700 kVA/kW
	Output power factor	pf 1.0	pf 1.0
5.3.2 f and 5.3.2 g	Number of output phases	3 phase + neutral + PE	
5.3.2 b	Rated output voltage	220/380 V; 230/400 V; 240/415 V, configurable	
5.3.2 j	Voltage transient (r.m.s)	0% during transfer from stored energy to normal mode	
5.3.2 c	Rated output frequency	50 or 60 Hz, configurable	
	Maximum slew-rate when synchronizing	0,5 Hz/s	
5.3.2 l	Overload capability @ maximum ambient temperature On inverter	10 min 110% load	10 min 110% load
		30 sec 125% load	30 sec 125% load
		10 sec 150% load	10 sec 150% load
		300 ms >150% load	300 ms >150% load
	Overload capability @ maximum ambient temperature – On bypass	Continuous < 115% load 20 ms 1000% load	
5.3.2 m	Output current limitation, short-circuit capability	4750 A, 300 ms	4750 A, 300 ms
5.3.2 o and 5.3.2 p	Load power factor, permitted range	From 0,7 lagging to 0,9 leading without de-rating	

**BYPASS**

	Type of bypass	Static
	Bypass rating	1700 kVA/kW
	Bypass voltage range	220/380 V; 230/400 V; 240/415 V tolerance -10% / +10% of rated voltage
	Transfer time break	No break
	Backfeed protection	Backfeed detection. Integrated backfeed breaker is optional
	Rated conditional short-circuit current, I <sub>cc</sub>	100 kA (internal bypass ultra rapid fusing)
	Internal static bypass ultra-rapid fuse	Bussmann, 170M7085, 3500A 690Vac

**BATTERY CHARACTERISTICS**

5.4.2.2 d	Battery technology	Compatible with VRLA, Lithium-ion and NiCd batteries
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5.4.2.2 b	Battery quantity (VRLA)	40 - 50 battery blocks, 240 - 300 cells per string	
5.4.2.2 c	Battery voltage range	400-700 Vdc	
5.4.2.2 f	Stored energy time	See separate declaration	
5.4.2.2 o	Recharge profile	Advanced Battery Management (ABM <sup>®</sup> ) = 90% resting, 10% floating/charging (typical) OR float charge	
5.4.2.2 q	End of discharge voltage (VRLA)	1.67 VPC to 1.75 VPC Configurable or automatic (load adaptive)	

**COMMUNICATION CIRCUITS**

5.6	User interface & system status	Touchscreen LCD, Status LED indicators for UPS level and UPM level state and alarms	
	Standard connectivity ports	4 x Mini-Slot ports for optional cards, 5 x building alarm inputs, 1 x relay output and a dedicated EPO	
	Optional	Mini-Slot cards: Ethernet 10/100/1000BaseT, Web/SNMP, ModBus/Jbus TCP or RTU, Relay inputs/outputs Other: Environmental monitoring probe Gen 2 (up to 3 sensors daisy-chained)	
	Cybersecurity compliance	IEC 62443-4-2, UL 2900-1	
	Complete list of indications and interface devices	See User's Manual	

**COMPLIANCE WITH STANDARDS**

IEC 62040-1	Safety Access	Restricted access	
	Degree of protection	IP20; protection against medium sized foreign matter (incl. finger)	
IEC 62040-2	Electromagnetic Compatibility		
	Immunity Emissions	EMC Category C3 EMC Category C3	