

Eaton 9SX 15-20kVA Technical Specification

Model	15K-AU	20K-AU
UPS power module		
Input		
Rated input voltage	1 phase 220/230/240V 3 phase 380/400/415V	
Input voltage range	160V~300V full load 100~160V liner derating	
Rated input frequency	50Hz/60Hz	
Input frequency range	40 Hz– 70 Hz	
Input frequency phase lock range	45 Hz– 55 Hz 54 Hz – 66 Hz	
System compatibility	TN-S / IT	
Earth leakage current	≤7mA	
Input power factor（PF）	>0.995 both 1 phase and 3 phase	
Line break time without transfer to battery mode	4ms	
Input voltage surge rating	L-N: 405J L/N-GND: 445J	
THDi	≤3% linear load	
	≤5% non-linear load	
Input wiring	L+N+G 1 phase L1+L2+L3+N+G 3 phase	
Input connection	Terminal blocks	
Generator Set	2 times of UPS Rated Power	
Output		
Phase connection	Input-output 3-1, 3-3, 1-1	
Rated output voltage	1 phase 220/230/240V 3 phase 380/400/415V	
Rated output frequency	50Hz/60Hz	
Rated output apparent power	15KVA	20KVA
Rated output active power	15KW	20KW
Max PF	1	
Voltage variation	±1%	
Frequency Variation	±0.1Hz	
THDV	≤1% linear load	
	≤3% non-linear load	
Performance classification	VFI-SS-111 (not include ECO mode to inverter mode)	
Load crest ratio	≥3:1	
Break time	0ms (ESS mode to inverter mode 2ms, ECO to inverter mode 10ms)	
Output voltage DC offset(Phase to Neutral)	±100 mV	
Output voltage unbalance	≤3%	
Output wiring	L+N+G 1 phase L1+L2+L3+N+G 3 phase	
Output connection	Terminal blocks	
Overload capacity line mode (at rated voltage)	105%<Load≤125%: 10min	
	125%<Load≤150%: 1min	
	>150% :0.5s	
Overload capacity battery mode (at rated voltage)	105%<Load≤125%: 1min	
	125%<Load≤150%: 30s	
	>150% :0.5s	

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Overload capacity bypass mode (at rated voltage)	105%<Load≤125%: constant	
	125%<Load≤150%: 30s	
	>150% :0.5s	
Output short clearance capacity	22.7A±2A@10s	30.3A±2A@10s
Battery and charger		
EBM Requirement	2 x 3RU modules required as a minimum to support any backup time (P/N 9SXEBM480RT6U contains 1 complete pair of 2 x 3RU modules)	
Maximum compatible EBM Qty.	6 pairs of 2 x 3RU EBMs	
Battery voltage	±240VDC with mid-point neutral by default, configurable to ±192VDC with mid-point neutral	
Battery capacity	9AH	
Backup time	3.8min (1 pair of EBMs) at full load	2.4min (1 pair of EBMs) at full load
Charging current	2A (0~13A adjust by LCD or USB/RS232)	
Charging method	ABM	
Temperature compensation	20mv/pcs/ °C	
Battery ripple current (RMS)	<200mA	
recharging time	3 hours to 90% (1 pair of EBMs)	
Efficiency		
Online mode	up to 96%	
Battery mode	up to 94%	
ECO or ESS mode	up to 98.8%	
power loss without load	120w	
Other working modes		
CVCF (constant voltage and constant frequency)	no derating at 3-3, 3-1 mode derating to 60% at 1-1 mode	
Parallel mode	maximum 3 (built-in parallel board)	
ESS mode (energy saving system)	yes	
Interface		
Display	colourful touch LCD (with gravity sensor)	
language	English, French, German, Spanish, Russian, Portuguese, Italian, Chinese	
RS232	RS232 DB9	
USB	USB 2.0 type-B	
Dry contacts	EPO terminal	
	Programmable Input terminal	
	Programmable Output terminal	
Communication Slot	MS-type Slot	
EBM auto detection port	RJ 45	
MBP auto detection port	RJ 45	
MBP Load segment control port	RJ 45	
Physical dimension		
chassis (H*W*D)	3U (129)*438*589mm	
net weight (Kg)	23.7	
Gross weight (Kg)	27.5	
Installation type	Rack/Tower	

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Environment		
Ambient Service Temperature	0℃ ~ 50 ℃（0~40 no derating, 40℃~ 50℃ derating to 50%）	
Ambient Storage Temperature	-25℃~60℃	
Relative Humidity	0 ~ 95%	
Operating Altitude	0~4000m(0~1000m no derating, 1000m~4000m the load should derating 1 % every up 100m)	
Noise	≤55dB	
Protective level（IP）	IP20	
EMI	C3	
ESD	IEC/EN 61000-4-2 Level 3	
RS	IEC/EN 61000-4-3 Level 3	
EFT	IEC/EN 61000-4-4 Level 4	
Surge	IEC/EN 61000-4-4 Level 4	
MTBF	150K hours	
Warranty time	2 years	
Certification		
Safety	CE/TLC(level 1)/RCM	
Energy saving (only for China)	CQC	
UPS Accessory		
Rail kit	Optional	
Mounting Brackets (Ears)	Standard Offer	
Pedestal Feet	Standard Offer	
USB cable	Standard Offer	
RS232 cable	Optional	
Parallel cable	Standard Offer	
Connector jumper for terminal block on different model(1/1,3/1,3/3)	Standard Offer	
Manual	Standard Offer	
Connectivity Card	Optional: NETWORK-M2, INDGW-M2, RELAY-MS	
Environmental Module	Optional: EMPDT1H1C2	
EBM Connection Cable	Standard Offer (in EBM box)	
EBM Detection Cable	Standard Offer (in EBM box)	
EBM		
Model	(15K-AU) EBM480	(20K-AU) EBM480
EBM quantity	Each 3RU module is 240V and half a string. Modules to be deployed as pairs. (P/N 9SXEBM480RT6U is a complete pair)	
Battery quantity	2*20*12V/9AH (per complete pair)	
DC Voltage	±240VDC (full string)	
Power Connection	6-pole socket	
Power Cable	Standard Offer	
EBM auto detection port	RJ45	
Detection Cable	Standard Offer	
Fuse	Standard Offer	
Dimensions (H*W*D)	6U(258)*438*589mm (per complete pair)	
Net Weight（Kg）	124.2 (per complete pair)	

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Model	(15K-AU) EBM480	(20K-AU) EBM480
Installation type	Rack/Tower	
Ambient Service Temperature	5°C ~ 25 °C	
Ambient Storage Temperature	0°C ~ 35 °C	
Relative Humidity	0 ~ 95%	
Operating Altitude	0~4000m	
Protective level (IP)	IP20	
EBM Accessory		
Rail kit	Optional	
Mounting Brackets (Ears)	Standard Offer	
Pedestal Feet	Use UPS feet	
Manual	Standard Offer	
EBM power cable	Standard Offer	
EBM detection cable	Standard Offer	