

Eaton 9130 700-6000VA Tower UPS Technical Specification

CONSTRUCTION						
Model	PW9130G700T -XL	PW9130G1000T -XL	PW9130G1500T -XL	PW9130G2000T -XL	PW9130G3000T -XL	PW9130G6000T -XL
Rating	700VA/630W	1000VA/900W	1500VA/1350W	2000VA/1800W	3000VA/2700W	6000VA/5400W
Technology	VFI-SS-111, on-line double conversion with power factor correction					
UPS Dimensions: W x D* x H (mm)	160x355x250**	160x383x250**	160x435x250**	214x410x345**	214x410x345**	242x542x575
	*Allow 150mm rear clearance for connections & air flow **Height includes rubber feet					
Colour	Black, RAL9005 (PPC-18)					
Weight (kg)	12.2	14.5	19.0	34.5	34.5	75.5
ENVIRONMENTAL & SAFETY						
Ambient storage temperature	-20°C to +40°C with batteries and -25°C to +55°C without batteries					
Ambient service temperature	Power electronics part: +0 to +40°C, Battery part: +5 to 25°C without reducing battery life					
Maximum service altitude	1000m above sea level.					
Relative humidity	5 to 90%, no condensation allowed					
Degree of protection	IP20 (EN60529)					
Acoustic Noise	<52dBA (700-3000VA), <55dBA (6000VA) Normal mode, typical load and Battery mode					
Surge Suppression	EN 61000-2-2, EN 61000-4-2 Level 3 EN 61000-4-3, Level 2 (6kVA = Level 3) EN 61000-4-4, Level 2 (also on signal ports) (6kVA = Level 3) EN 61000-4-5, Level 3 Criteria A (IEEE C62.41 6 KV) EN 61000-4-6, Level 2 (6kVA = Level 3) EN 61000-4-8, Level 2 (6kVA = Level 4), EN 61000-4-11					
Safety Markings	CE, GS					
Electromagnetic Compatibility	EN 62040-2 Emissions, category C1; Immunity, category C2					
Agency Markings	CE, C-Tick					
POWER CONNECTIONS						
Input	C14 10 Amp	C14 10 Amp	C14 10 Amp	C14 10 Amp	C20 16Amp	Hardwired, 10mm² Max
Output	(6) C13 10A	(6) C13 10A	(6) C13 10A	(8) C13 10A, (1) C19 16A	(8) C13 10A, (1) C19 16A	Hardwired, 10mm² Max
USER INTERFACE						
Display	Graphical LCD with blue backlight, 4x LEDs for notice and alarm					
Communication Ports	1 x USB (HID), 9600 bps, 1x RS232 (DB9, with 2 opto-coupled relay outputs), 1200-9600 bps, 1 x Minislot Communication Card Slot (Empty)					
Signal Inputs	(4) programmable signal inputs (one RS-232 input, two connectivity card signal inputs, and one Emergency Power Off input) for indicating building alarms or other use					
Relay Port	(1) three-pole connector with (1) contact closure (Voltage Free Contact)					
Output Relay Specifications	60VDC/2A Max, 30VAC/1A Max					
Optional	Minislot cards; Web/SNMP, Modbus, Relay					
ELECTRICAL CHARACTERISTICS – INPUT						
Number of Input Phases	1 Phase (Separate Rectifier and Bypass inputs available on 6kVA)					
Rated input voltage and voltage tolerance	<u>Rectifier</u> : 230Vac nominal (200, 208, 220, 240V Selectable)					
	700-1500VA Tolerance: 120/140/160-276V (33%/66%/100% 0.7pf Load) 180-276V, (-22%, +20% at 0.8pf Load) 190-276V, (-17%, +20% at 0.9pf Load)					
	2000-3000VA Tolerance: 140/160/180-276V (33%/66%/100% 0.7pf Load) 190-276V, (-17%, +20% at 0.8pf Load) 200-276V, (-13%, +20% at 0.9pf Load)					
	6000VA Tolerance: 120/140/160/180-276V (25%/50%/75%/100% 0.9pf Load)					
	<u>Bypass tolerance</u> : 196-253V (-15%, +10% of nominal)					
Operating Frequency	50 or 60Hz; Tolerance 40-70Hz					
Input current distortion	700-3000VA: <8% THDi. 6000VA: 5% THDi (Linear load condition at rated input current)					
Input power factor	≥0.99pf					
Inrush Current	700-3000VA: <45A (peak) decaying exponentially within 30 ms. 6000VA: 150A <1ms					
Rated Input Current @ 230V	3.0A	4.3A	7.2A	8.7A	13.0A	28.6A
Dedicated Supply CB Rating	6A	6A	10A	10A	16A	40A

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ELECTRICAL OUTPUT CHARACTERISTICS – NORMAL MODE

Model	PW9130G700T -XL	PW9130G1000T -XL	PW9130G1500T -XL	PW9130G2000T -XL	PW9130G3000T -XL	PW9130G6000T -XL
Rated apparent/active power	700VA/630W	1000VA/900W	1500VA/1350W	2000VA/1800W	3000VA/2700W	6000VA/5400W
Number of output phases	1 Phase					
Transfer time	No break (normal to stored energy)					
Rated output voltage	700-3000VA: 230V Single Phase (default), 200*, 208**, 220, 240Vac (selectable) *output de-rated by 20%, **output de-rated by 10%					
	6000VA: 230V Single Phase (default), 208*, 220, 240Vac (selectable) *output de-rated by 10%					
Voltage variation	±2%					
Crest factor	3:1					
Rated output frequency	50Hz (default) or 60Hz					
Frequency regulation	±3Hz of nominal line frequency, ±0.5, ±1Hz, ±2Hz User Selectable (outside this range ±0.1Hz)					
Total output voltage distortion	<3% (Across a linear load); <5% (Across a non-linear load)					
Number of output phases	1 Phase					
Output Overload (Normal Mode)	Level 1: 100-102%: Activates Overload alarm Level 2: >102-130%: Load transfers to Bypass mode after 12 seconds (700-3000VA), 2 minutes (6000VA) Level 3: >130-150%: Load transfers to Bypass mode after 2 seconds (700-3000VA), 30 seconds (6000VA) Level 4: >150%: Load transfers to Bypass mode immediately Short circuit capability: 5 cycles capability, then UPS shut down NOTE: Default configuration transfers immediately to Bypass at >102%					
Dynamic Voltage variation	±6% max from 100% to 20% load step or vice versa					

ELECTRICAL OUTPUT CHARACTERISTICS – STORED ENERGY

Rated apparent/active power	700VA/630W	1000VA/900W	1500VA/1350W	2000VA/1800W	3000VA/2700W	6000VA/5400W
Waveform	Sine Wave					
Rated output voltage	230V Single Phase (default), 200*, 208**, 220, 240Vac (selectable) *200V output de-rated by 20%, 208V output de-rated by 10%					
Output voltage variation	±2% (700-3000VA), ±3% (6000VA)					
Crest factor	3:1					
Rated output frequency	50Hz (default) or 60Hz					
Output frequency regulation	< ±0.1Hz					
Total output voltage distortion	<3% (Across a linear load); <5% (Across a non-linear load)					
Load power factor range	0.7 – 1.0					
Number of output phases	1 Phase					
Output Overload (Battery Mode)	Level 1: 100-102%: Activates Overload alarm Level 2: >102-130%: 12 seconds (700-3000VA), 2 minutes (6000VA) Level 3: >130-150%: 2 seconds (700-3000VA), 30 seconds (6000VA) Level 4: >150%: UPS shuts down within 100ms Short circuit capability: 5 cycles capability, then UPS shut down					

EFFICIENCY (Input/Output)

At 100% load (On Line Mode/High Efficiency Mode)	90% / >93% (700-2000VA), 91% / >93% (3000VA), >94% / >98% (6000VA)					
At 100% load (On Battery)	>79.5% (700VA), >82% (1000-1500VA), >84% (2000-3000VA), >92% (6000VA)					
Dissipation normal mode	70W	100W	150W	200W	267W	345W
Dissipation on battery	163W	198W	296W	343W	514W	470W

BATTERY

Battery Type	12V, 7/9 Ah batteries, Valve Regulated Lead Acid, AGM					
Battery Management	Advanced Battery Management (ABM®) = 90% resting, 10% floating/charging					
Charging current	1.0A – 1.6A					
Battery cut-off voltage	1.60VDC – 1.85VDC per cell depending on load					
Battery Re-charge time	Internal Battery: <4 hours to recover 90 percent of nominal backup +1 EBM: 9 hours, +2 EBMs: 15 hours, +3 EBMs: 21 hours, +4 EBMs: 27 hours					
Battery Nominal Voltage	24V (12 Cells)	36V (18 Cells)	48V (24 Cells)	96V (48 Cells)	96V (48 Cells)	240V (120 Cells)
UPS Battery Configuration	2 x 12V9Ah	3 x 12V9Ah	4 x 12V9Ah	8 x 12V9Ah	8 x 12V9Ah	20 x 12V7Ah
Battery Replacement	Hot-swappable internal and external batteries					

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MATCHING EXTERNAL BATTERY MODULES

UPS Rating	1000VA	1500VA	2000VA & 3000VA	6000VA
EBM Model	PW9130N1000T-EBM	PW9130N1500T-EBM	PW9130N3000T-EBM	PW9130N6000T-EBM
EBM Battery Configuration	2 strings of 3 x 12V9Ah	2 strings of 4 x 12V9Ah	2 strings of 8 x 12V9Ah	2 strings of 20 x 12V7Ah
EBM Dimensions (mm): W x D* x H	160W x 383D x 231H**	160W x 435D x 231H**	214W x 410D x 325H**	242W x 542D x 575H mm
	*Allow 100mm rear clearance for connections ** Height includes rubber feet			
Weight (kg)	18.5	24.3	50.0	111

BATTERY RUN TIMES NOTE: Battery times are approximate and vary depending on age, temperature and load configuration.

Minutes @ Full / Half Load	Internal Batteries	+ 1 EBM	+ 2 EBMs	+ 3 EBMs	+ 4 EBMs
700VA/630W	5 / 14	-	-	-	-
1000VA/900W	6 / 19	32 / 68	51 / 111	81 / 193	100 / 246
1500VA/1350W	5.5 / 14	25 / 62	46 / 112	69 / 172	90 / 222
2000VA/1800W	11 / 28	44 / 96	79 / 168	115 / 258	162 / 336
3000VA/2700W	6 / 16	21 / 60	52 / 100	66 / 169	94 / 215
6000VA/5400W	6 / 19	33 / 78	64 / 148	96 / 211	130 / 266

BYPASS CHARACTERISTICS

Type of bypass	Automatic Bypass
Transfer Time	Online mode: 0ms (no break), High Efficiency Mode: 10ms maximum (due to loss of utility)
Output Overload (Bypass Mode)	Level 1: 100-110%: Activates Overload alarm Level 2: >110-130% UPS shuts down after 5 minutes Level 3: >130-150%: UPS shuts down after 15 seconds (700-3000VA), 30 seconds (6000VA) Level 4: >150%: UPS shuts down after 300ms