Vertiv™ UPS solutions for desktop AI supercomputers

What are the power requirements of a desktop AI supercomputer?

Vertiv™ internal testing has found the power requirements of the NVIDIA DGX Spark AI desktop to be under 30W at idle, just under 140W under typical load, and 170W under heavy load. Real-world usage and user testing of NVIDIA DGX Spark systems showed the same results. This includes the use of a display, assuming an additional 40-50W, depending on screen size and type.

For UPS capacity sizing, 300W per workstation serves as the baseline. This accounts for total system power while providing enough headroom for inrush during bootup. For runtime estimation, 200W is assumed, typical for a workstation and single display under normal use. Multiple displays or USB-C powered accessories may impact runtimes.

Which desktop UPS should I choose?

Vertiv testing has verified that NVIDIA DGX Spark systems are compatible with Vertiv™ desktop UPS products. Given the critical nature of processing data in AI applications, Vertiv recommends using a line interactive desktop UPS. Configurations range from step-approximated sinewave models for everyday protection to network and server grade models with enterprise-class remote monitoring and management.

Essential



Vertiv™ PowerUPS 200 Standard Series

- 850-1500VA
- Line interactive topology
- Step-approximated sinewave output
- Color LCD display
- 8 to 10 outlets

Performance



Vertiv™ PowerUPS 200 Premium Series 1500VA

- Line interactive topology
- Pure sinewave output
- Color rotatable LCD display
- 10 outlets

Peak



Vertiv™ Liebert® PSI5 Mini Tower 750-1500VA

- Line interactive topology
- Network and server grade UPS
- Pure sinewave output
- VRLA or lithium-ion batteries
- Advanced LCD display
- Optional Vertiv™ Liebert® IntelliSlot™ RDU120 Network Card
- 6 to 8 outlets, including 2 to 3 controllable outlets



NVIDIA DGX Spark

Desktop AI with NVIDIA DGX Spark

The NVIDIA DGX Spark, built on the NVIDIA GB10 Grace Blackwell Superchip, introduced a new category of desktop AI workstations to enable agents and always-on workloads locally, right from the desktop. Vertiv™ UPS solutions are tested and validated for reliable and continuous support of NVIDIA DGX Spark desktop AI systems.

NVIDIA Partner

Vertiv™ UPS solutions for desktop AI supercomputers

	Capacity	Estimated runtime for one desktop AI system & display	Outlets	Dimensions	Topology	Battery	Warranty
Essential: Vertiv™ PowerUPS 200 Standard							
PSA6-850LVT	850VA / 530W	12 mins	(6) 5-15R battery backed (2) 5-15R surge-only	4.72 x 11.42 x 11.34 in (120 x 288 x 290) mm	Line interactive	VRLA	2 years
PSA6-1000LVT	1000VA / 625W	14 mins	(6) 5-15R battery backed (2) 5-15R surge-only	4.72 x 11.42 x 11.34 in (120 x 288 x 290) mm	Line interactive	VRLA	2 years
PSA6-1350LVT	1350VA / 850W	31 mins	(7) 5-15R battery backed, (3) 5-15R surge-only	4.72 x 16.93 x 11.42 in (120 x 430 x 290) mm	Line interactive	VRLA	2 years
PSA6-1500LVT	1440VA / 935W	36 mins	(7) 5-15R battery backed, (3) 5-15R surge-only	4.72 x 16.93 x 11.42 in (120 x 430 x 290) mm	Line interactive	VRLA	2 years
Performance: Vertiv™ PowerUPS 200 Premium							
PSA6S-1500LVT	1440VA / 915W	38 mins	(3) NEMA 5-15R(2) NEMA 5-15R (Programmable)	5.7 x 14.8 x 8.7 in (145 x 376 x 220) mm	Line interactive	VRLA	2 years
Peak: Vertiv™ Liebert® PSI5 Mini Tower							
PSI5-750MT120	750VA / 675W	33 mins	(3) NEMA 5-15R (2) NEMA 5-15R (Programmable)	5.7 x 14.8 x 8.7 in (145 x 376 x 220) mm	Line interactive	VRLA	2 years
PSI5-1100MT120	1100VA / 990W	46 mins	(3) NEMA 5-15R (2) NEMA 5-15R (Programmable)	5.7 x 14.8 x 8.7 in (145 x 376 x 220) mm	Line interactive	VRLA	2 years
PSI5-1500MT120	1440VA / 1350W	80 mins	(3) NEMA 5-15R (3) NEMA 5-15R (Programmable)	5.7 x 19.1 x 8.7 in (145 x 484 x 220) mm	Line interactive	VRLA	2 years
PSI5-1500MT120LI	1500VA / 1350W	81 mins	(3) NEMA 5-15R (3) NEMA 5-15R (Programmable)	6.3 x 15.6 x 8.7 in (158 x 397 x 220) mm	Line interactive	Lithium-ion	3 years

Runtime data and compatibility testing performed by Vertiv are based on the NVIDIA DGX Spark. All NVIDIA GB10-powered desktop systems have similar power requirements.

For clustered environments, assume 200W per workstation for runtime estimation.*
Additional hardware on the UPS should be factored into the total load. For runtime information based on the total load, visit the Vertiv™ PowerUPS 200, Vertiv™ Liebert® PSI5, and Vertiv™ Liebert® PSI5 Lithium-Ion product pages at Vertiv.com.

Contact your representative for additional sizing assistance.

**Estimated runtime assumes an NVIDIA DGX Spark with one display drawing 200W. Actual runtime may vary based on system configuration and connected accessories.*

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