

WHAT ARE THE BENEFITS OF DEPLOYING 415 VAC Power Distribution in Your Data Center

TYPICAL APPLICATION

I typically deploy 208 VAC 3-phase power distribution; however, I have increasing power density needs, and I'd like to understand the benefits of upgrading to 415 VAC 3-Phase deployment.

OUR SOLUTION

With growing demands for higher power densities, traditional 208 VAC 3-phase distribution systems are being replaced with 415 VAC 3-phase systems commonly deployed outside North America. The capability to deliver 120 VAC has been the conventional advantage of a 208 VAC system. However, most modern IT devices have universal power supplies capable of operating at higher voltages.

A 415 VAC 3-phase system supplies 240 VAC in a line-to-neutral configuration which is significantly different from the 208 VAC system where the line-to-neutral voltage is 120 VAC after the PDU transformer. In implementing 415V power, as opposed to a comparable 208 VAC system, efficiency gains are typically 2 percent from eliminating the PDU transformer and an added 2 percent to 3 percent from running compatible IT devices at a higher voltage.

Power and cost savings can be achieved in a 415 VAC system using fewer poles at the breaker panel, smaller gauge power cords, less expensive plugs, and reductions in cooling costs by having fewer power cable drops which can impede cabinet airflow. The reduced current requirements in a 415 VAC system can cut costs by mitigating line power losses that data centers experience every time electricity passes through a power converter or transformer.

We recommend a 36 outlet Server Technology HDOT Cx Rack PDU like our C2W36TE-5CAE2M99 Switched model for this application. The specified PDU has a 415 V, 30 A circuit with (18) C13 and (18) Cx outlets. The Cx UL-tested hybrid of C13 and C19 outlets, accommodating both C14 and C20 plugs into one flexible outlet. The multifunction design of the Cx outlet provides the flexibility to reconfigure rack gear without replacing your PDU due to outlet configuration limitations, resulting in lower equipment costs.

Additionally, Cx outlets are offered with alternating phase technology which alternates phased power on a per-outlet basis allowing for easier load balancing and shorter power cords, which increases cabinet airflow and further reduces cooling costs. This solution can future-proof your environment by providing 17.3kW of power capacity with the flexibility of Cx outlets for a multitude of cabinet configuration needs, ensuring your installations are flexible and stay ahead of shifting outlet requirements.



About Server Technology®

Server Technology, a brand of Legrand, is leading the engineering and manufacturing of customer-driven, innovative and exceptionally reliable power, access and control solutions for monitoring and managing critical IT assets for continual availability.

Server Technology's power strategy experts are trusted to provide Rack PDU solutions for data centers worldwide ranging from small technology startups to Fortune 100 powerhouses. Because power is all we do, Server Technology can be found in the best cloud and colocation providers, forward thinking labs, and telecommunications operations.

Server Technology customers consistently rank us as providing the highest quality PDUs, the best customer support, and most valuable innovation. We have over 12,000 PDU configurations to fit every data center need and most of our PDUs are shipped within 10 days.



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