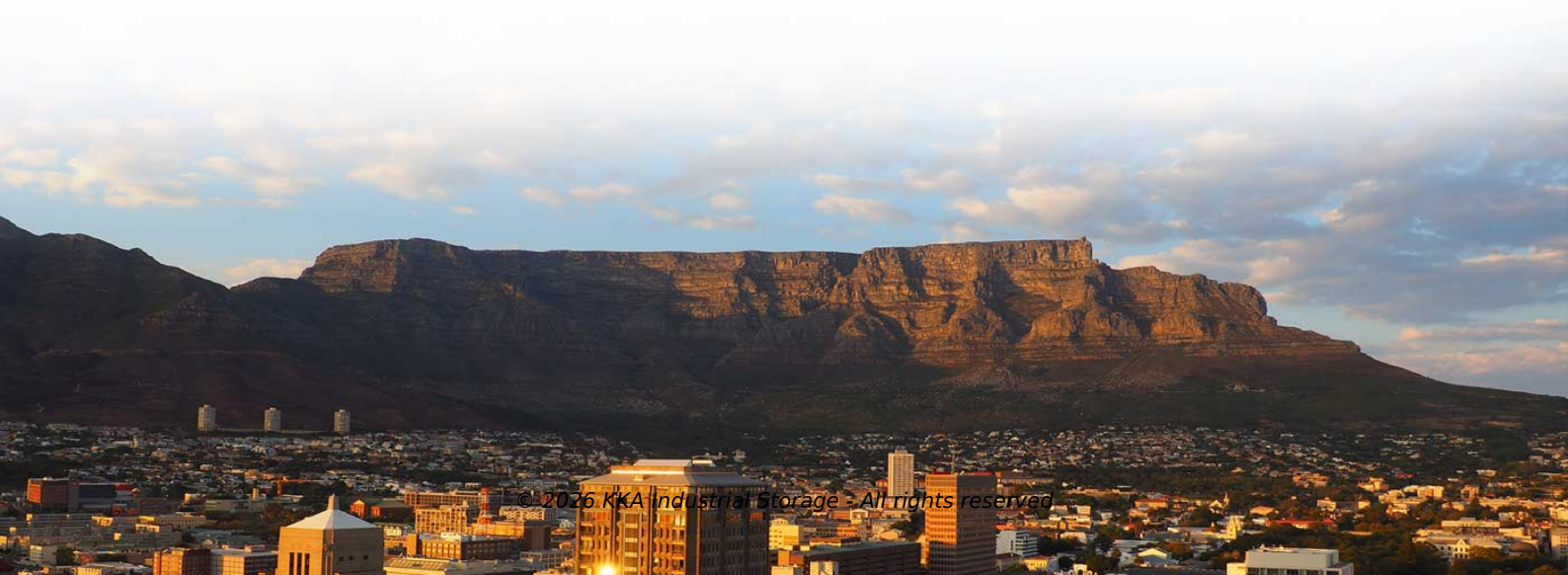
Optics & Photonics

KKA Industrial Storage

DC converter for server racks in data centers

Overview

Most data center server racks are not currently powered this way, but with the advent of servers on the market that can operate with either AC or DC, it is possible to use the DC powering approach, thus eliminating extra power conversion steps and losses. Power conversion is at the core of reducing the energy consumption of data centers. Data centers use an average of 3 kW to 5 kW per rack to power server, storage, and networking racks. The adoption of Artificial intelligence (AI), 5G and big data, are leading to more intelligence, but higher power. DC-DC converters in servers are essential for efficiently managing power distribution within servers, converting higher voltage DC from the main power supply to lower voltage levels required by various server components. As a technology enabler, mid-voltage GaN plays a relevant role on the primary side, enabling an increase in switching frequency. Inside each individual switch and server, the PSU or rectifier converts it back to the DC that the electronics wants. But there are drawbacks to all this. For additional information about ST trademarks, please refer to www.



Article Content

A 99.7% Efficient Series-Stacked Architecture for Rack-Level …

r rack level is becoming an increasingly popular solution for future energy efficient data centers. A 48 V to 5 V dc-dc converter with an efficiency of around 90% is typical.

Comprehensive power delivery solution for modern AI data centers

Comprehensive power delivery solution for modern AI data centers Paolo Sandri, Gianni Vitale STMicroelectronics

12V DC Integrated Rack Solution from Vertiv

Vertiv''s solution integrates the rack, bus bar distribution, and an intelligent power system into an autonomous DC power infrastructure, ready for an end-user or IT integrator to rack-n-roll their OCP …

Power Architecture Evolution in Data Centers

In this paper, we analyze a few examples of converters and topologies which will fit in the new architecture, as well as the technologies and components that enable them.

Review of Isolated DC-DC Converters for Application in Data Center ...

This paper presents a critical review of data centers'' power delivery in general and on-board isolated DC-DC converters in particular. A detailed comparison of wide-bandgap-based-isolated DC-DC …

Direct Current (DC) Power | Center of Expertise for Data Center …

Most data center server racks are not currently powered this way, but with the advent of servers on the market that can operate with either AC or DC, it is possible to use the DC powering approach, thus …

Addressing challenges in data-center power delivery with 800V …

High-voltage power conversion is the heart of future AI data center power delivery architectures. Technologies such as gallium nitride (GaN) enable power density and conversion efficiency in these …

DC power in the racks

Data centers adopted many things from telecoms, including the ubiquitous 19-inch rack. But even though electronics run on DC, data centers distribute power by AC. “We actually still see …

DC-DC converter

DC-DC converters in servers are essential for efficiently managing power distribution within servers, converting higher voltage DC from the main power supply to lower voltage levels required by various ...

GaN-based DC/DC Conversion for Data Center Applications | EPC

Design GaN-based DC/DC converters for your data center applications to improve power usage efficiency & see why EPC GaN products are the best in the market.

GaN-based DC/DC Conversion for Data Center ...

Design GaN-based DC/DC converters for your data center applications to improve power usage efficiency & see why EPC GaN products are the best in the market.

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: https://www.kingkongautomotive.co.za
Email: info@kingkongautomotive.co.za
Phone: +27 73 194 5826
Address: Block C, Waterfall Office Park, 1 Magwa Crescent, Midrand, 1685, South Africa

This document is for informational purposes only. Specifications subject to change without notice.