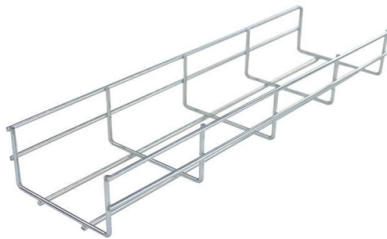


Low-loss solution for power supply systems at Israeli telecommunications sites



Overview

Telecom Energy Solution We also offer integrated power solutions for intelligent video surveillance systems and solutions for site sharing of tower vendors.

Key Takeaways

High-efficiency DC/DC converters, active-clamp forward converters, and multiphase buck-boost topologies are key low-loss solutions for telecom power systems, supported by local Israeli suppliers. Key Technologies for Low-Loss Telecom Power

1. DC/DC Conversion with Active-Clamp Forward Converters (ACFC): Telecom sites typically operate on -48 V DC , which must be efficiently converted to positive voltages for baseband units and radio units. The ACFC topology integrates a forward converter with an active-clamp circuit, reducing voltage spikes, switching losses, and electromagnetic interference (EMI), thereby improving overall efficiency and reliability in high-density telecom deployments . 2. Multiphase Buck-Boost Controllers: For high-power applications, such as 5G base stations, stackable and interleaving multiphase buck-boost controllers allow scalable power delivery while minimizing losses. These systems can handle output powers above 500 W , balancing thermal performance and efficiency across multiple phases . 3. Synchronous Rectification and Soft Switching: Using synchronous rectification and soft-switching techniques further reduces conduction and switching losses, which is critical for high-current, low-voltage outputs in telecom equipment .

Efficiency and Reliability Considerations

- **Redundancy:** Power supplies should include backup sources like batteries or UPS systems to maintain uninterrupted operation during grid failures .
- **Energy Optimization:** Dynamic power management can reduce energy consumption during low traffic periods, lowering operational costs and heat generation .
- **High-Density Support:** Modern telecom networks, especially 5G, require precise power control for multiple small cells and distributed antenna systems, ensuring each component operates efficiently without overloading the supply .

Local Israeli Suppliers and Solutions

- **Telsys Ltd:** Offers a wide range of semiconductors, subsystems, and telecom products, including components for high-efficiency power supplies .
- **Science.co.il Electronics Companies:** Provide DC/DC and AC/DC power supplies, UPS systems, high-capacity batteries, and power quality controllers suitable for telecom applications. They also offer synchronous rectification, ZV/ZC switching, and high-efficiency open-frame switchers .

Recommended Approach

- Select ACFC or multiphase buck-boost topologies for -48 V DC input to minimize losses.
- Incorporate synchronous rectification and soft-switching to reduce heat and EMI.
- Ensure redundancy and battery backup for uninterrupted service.
- Work with local suppliers like Telsys or specialized Israeli power electronics companies to source components and systems compliant with telecom standards. By combining these technologies and local expertise, Israeli telecommunications sites can achieve low-loss, high-efficiency, and reliable power supply systems suitable for modern 4G/5G networks.

Article Content

Telecom Energy Solution

We also offer integrated power solutions for intelligent video surveillance systems and solutions for site sharing of tower vendors. Our

Telecom Power Supplies | Rectifiers | Inverters | UPS Systems

Today, BENNING is regarded as one of the leading suppliers of highly efficient power supplies for the safe operation of information

DC Power Systems for Telecom Sites | PDF | Direct Current | Power

The tutorial emphasizes the importance of proper maintenance, documentation, and adherence to standards for ensuring reliable

Telecom Hybrid Power Solution | Telecom Solutions

Emtel Group has been at the forefront of implementing hybrid power systems, offering practical energy-efficient telecom tower

A REVIEW ON DESIGN AND COST ANALYSIS ON HYBRID

On account of all these problems associated with the existing power system, a system is proposed with SPV powering the Telecom

Power-management solutions for telecom systems improve

Deregulation and competition in wire line and wireless infrastructure telecommunications systems have accelerated the need for

Telecom Energy Solution

The solution is based on Huawei's extensive experience in building the telecommunication networks and our focus on customers"

Contact Us

Continue your research online:

Website: <https://coetzerinvestments.co.za>

Technical inquiry: <https://coetzerinvestments.co.za/contact.html>

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

