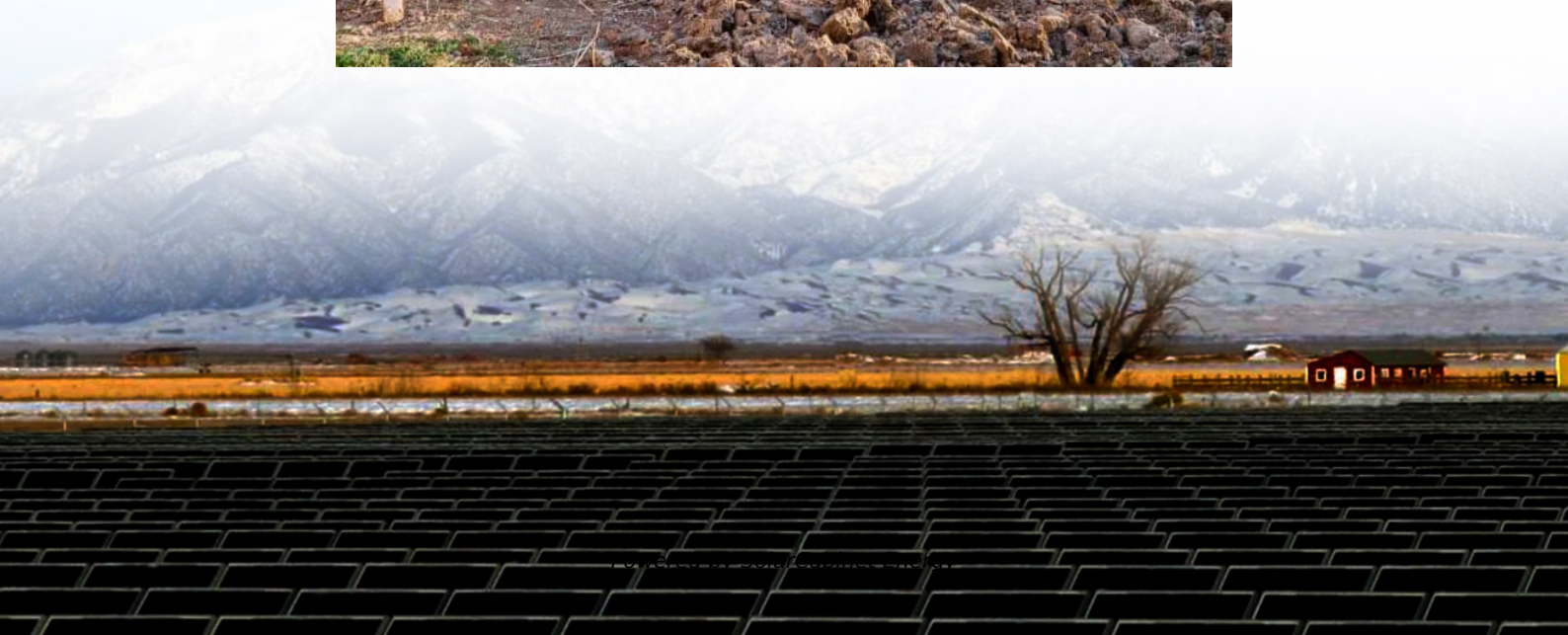


Power supply scheme for communication base stations





Overview

What types of power systems are used in communications infrastructure equipment?

Communications infrastructure equipment employs a variety of power system components. Power factor corrected (PFC) AC/DC power supplies with load sharing and redundancy (N+1) at the front-end feed dense, high efficiency DC/DC modules and point-of-load converters on the back-end.

How does a telecommunications DC power system work?

A simplified diagram of a typical telecommunications DC power system. When power from the grid is lost, the diesel generator is designed to start automatically providing AC power to the DC port system. The ATS synchronizes voltages from different sources to the equipment.

What is a preferred power supply architecture for DSL applications?

A preferred power supply architecture for DSL applications is illustrated in Fig. 2. A push-pull converter is used to convert the 48V input voltage to +/-12V and to provide electrical isolation. Synchronous buck converters powered off of the +12V rail generate various low-voltage outputs.

What is a multi-output power supply design?

Multiple output designs may also employ a complex regulation scheme which senses multiple outputs to control the feedback loop. Voice-over-Internet-Protocol (VoIP), Digital Subscriber Line (DSL), and Third-generation (3G) base stations all necessitate varying degrees of complexity in power supply design.

Which power supply is best for a BBU & RRU?

A power supply with a capacity of 100 W to 350 W was sufficient to cover many applications. Forward converters were a good choice and have been employed for years in telecom BBUs and RRUs. With the growing demand for mobile data, new markets and applications continue to emerge.



What is a Telecom DC power system?

The telecom DC power system typically includes the national electricity grid system, a diesel generator, a self-acting AC automatic transfer switch (ATS), a power distribution system, solar panels or boards, controllers and chargers, rectifiers, backup batteries arranged in series, and the corresponding cables and breakers. Figure 1.



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