

The 48V power supply for the communication site is used for broadcast transmission



Overview

In a typical telecom dc power system, 48V DC power supports routers, switches, and other critical devices. The 48 volt dc power architecture reduces current. Telecom and wireless networks typically operate on -48 VDC power, but why?

The short story is that -48 VDC, also known as a positive-ground system, was selected because it provides enough power to support a telecom signal but is safer for the human body while doing telecom activities (such as). The choice of -48V DC for powering telecommunications equipment is a standard practice rooted in a blend of historical precedent and a suite of technical benefits that ensure the robust, efficient, and safe operation of telecommunications networks. This standard is not arbitrary but is the result. Balancing transmission loss and safety: Lower voltages (e., 24V) increase current for the same power ($P=UI$), leading to higher line losses ($Q=I^2Rt$), overheating, and thicker wiring costs. Utility can be 220V or 380V AC.

The 48V power supply for the communication site is used for broad



- 48V DC powers small cells, remote radio units (RRUs), and distributed antenna systems (DAS).
- Efficient for PoE++ (Power over Ethernet) up to 90W (IEEE 802.3bt).



In communication, we often find that most of the communication power supplies are powered by -48V. In fact, there are many reasons and considerations for such a standard. Here we ...



Telecom networks use 48V DC power for safe, efficient delivery, reliable battery backup, and reduced corrosion, supporting critical communications equipment.



48V is a telecommunications industry-standard operating voltage. It is considered a “compromise voltage” by being high enough to enable relatively low signal loss transmissions over ...



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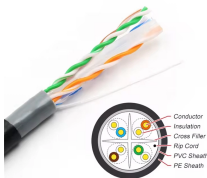
Historical and industry standards: Early communication devices (e.g., telephones) adopted 48V DC, establishing a mature technical ecosystem. Shifting to other voltages would incur ...



All of them offer the option of relying on -48V DC power supplies to keep the voice and data traffic moving across the networks. Most of the data passing through this hardware is ...



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This article examines the historical origin, technical advantages, safety features, and industrial applications to explain why DC 48V has become the mainstream power supply for telecom equipment.



The main reason for choosing a 48v telecom power supply is the stability and safety of its 48-volt voltage. 48v telecom power supply supplies are usually used in industrial equipment as well as ...

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