

# Communication 48v base station power supply





## Overview

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What is a -48V back-up battery converter?

The -48V back-up battery converter is similar in construction and complexity to the single-output, high-power VoIP converter previously discussed. The power factor corrected (PFC) AC/DC produces the supply voltage for the 3G Base station's RF Power amplifier (typ. +27V) and the bus voltage for point-of-load converters.

Why do telecom networks use -48 V DC power?

Telecom and wireless networks typically operate on -48 V DC power, but why?

The short story is that -48 V DC, 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.

What makes a telecom battery pack compatible with a base station?

Compatibility and Installation Voltage Compatibility: 48V is the standard voltage for telecom base stations, so the battery pack's output voltage must align with base station equipment requirements. Modular Design: A modular structure simplifies installation, maintenance, and scalability.

Can a -48 volt DC power a PA?

However, the -48 V DC must first be efficiently converted to a positive intermediate bus voltage before it can be boosted to power the PA or stepped down to a positive workable supply for the digital baseband units (BBU). A power supply with a capacity of 100 W to 350 W was sufficient to cover many applications.



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Building a Better -48 VDC Power Supply for 5G and Next

Figure 3. A power supply for a 5G macro base station block diagram. Highlighted ICs The MAX15258 is a high voltage multiphase boost controller with an I<sup>2</sup>C digital interface designed ...

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48v energy storage battery communication base station ...

Dec 4, 2025 · Why is backup power important in a 5G base station? With the rapid expansion of 5G networks and the continuous upgrade of global communication infrastructure, the reliability ...

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Build better -48 VDC power for 5G and next generation

Sep 11, 2023 · The next section describes the inverting step-boost converter MAX15258. Figure 3 is a typical simplified block diagram of the RRU board power supply for 5G macro base station ...

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Communications System Power Supply Designs

Apr 1, 2023 · The power factor corrected (PFC) AC/DC produces the supply voltage for the 3G Base station's RF Power amplifier (typ. +27V) and the bus voltage for point-of-load converters.

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OEM ODM back-up power supply for communication base station

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