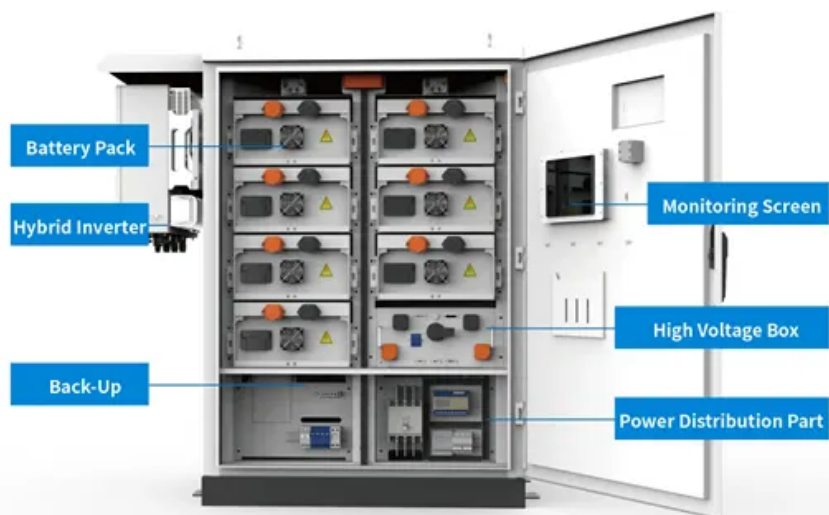


## SolarTech Power Solutions

# Communication base station inverter rescue



## Overview

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What is an indoor base station?

An indoor base station comprises a communication room accommodating various communication equipment and a communication tower responsible for transmitting and receiving information. The communication room is equipped with wireless communication devices, transmission equipment, power supply equipment, air conditioning, and cable routing racks.

What causes a communication base station to fail?

Power interruption is a significant contributor to communication base station functional failure. Communication systems closely rely on power systems, and power outages can result in widespread station interruptions. In the case of the earthquake in Changning County, 90% of disrupted base stations experienced power interruptions as the cause .

How does a communication tower damage a base station?

The communication tower and its antenna equipment are responsible for signal transmission and reception, and their damage directly affects the normal operation of the base station. This study mainly considers tower body damage (X 11) and antenna damage (X 12).

Do communication base stations perform post-earthquake functionality using Bayesian network?

A method to evaluate the post-earthquake functionality of communication base stations using Bayesian network is developed. The dependence between the equipment and its hosting building structure, and the impact of power outages are considered. The method is validated using seismic damage data from the Ludian Earthquake.

What is a typical communication equipment room (ground base station)?

Fig. 2. Layout of the typical communication room (Ground base station). 2.1.2.

Role of Each Component The main forms of the communication equipment room are civil construction room, color-coated steel room [33, 34], and integrated (container) room.

What is a base station?

2.1.1. Composition of Typical Base Stations Base stations are a form of public mobile transmitters that facilitate information exchange between mobile phone terminals and switching centers. They are typically categorized into indoor and outdoor types, with indoor base stations being the predominant communication infrastructure, as shown in Fig. 1.

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