

## SolarInnovate Energy Solutions

# The supercapacitor of the communication base station was struck by lightning



## Overview

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Can lightning damage a communication and broadcasting tower?

During the last few decades, a large number of lightning related accidents and damages have been reported in many countries in connection with communication and broadcasting tower sites ( Kithil, 2006, Eriksson and Meal, 1984, Pierce, 1971 ). In a tower environment, lightning related hazards may occur at various stages of a lightning strike. a.

What happens if lightning strikes a transmission station?

The lightning current will most probably enter the cables connected to the object struck, and flow into the signal feeding devices or power panels in the base transmission station (BTS) causing many other hazards to both equipment and staff. b.

How to manage lightning at a communication tower site?

Planning the management of lightning at a communication tower site should be done together with overall safety planning and the lightning safety procedures should be integrated with the master safety guidelines. A stepwise guidance for addressing the lightning safety issue is given below.

What are the standards for protection of structures and equipment against lightning?

The general concepts of protection of structures and equipment against lightning have been covered in IEC 62305 1-4, 2006, American Standards NFPA, 2008, IEEE C62.41, 1999 and AS/NZS 1768:2007 (2007), etc.

Can lightning protection be installed at a tower site?

Based on our observations we make a comprehensive list of recommendations for the installation of lightning protection scheme at a tower site and also discuss a concrete encased steel reinforcement system that can be used as a suitable grounding system for sites with very high soil resistivity.

How many injuries were caused by a Base Transceiver Station (BTS)?

In the 48 sites that we have investigated, there were 102 occasions of damage to the equipment in the base transceiver station (BTS) at 27 tower site and 13 cases of personal injuries at 08 sites. The exact nature of damages is highly complicated to analyze.

## The supercapacitor of the communication base station was struck b

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### Every bite of Supercap: A brief review on construction and ...

Jun 1, 2022 · However, pitfall of base electrolyte is that if the base electrolyte is overconcentrated then it induces surface corrosion of the electrode and at elevated temperatures, the produced ...

### ????????????????-?????-???

Dec 15, 2016 · This paper discusses the recurring problems of communication base station lightning protection and grounding systems, combined with many years of experience in ...



### (PDF) Analysis of Lightning Protection and Grounding Effect ...

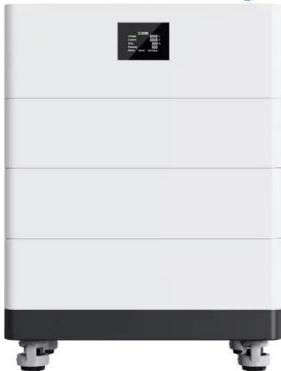
Aug 26, 2020 · By analyzing the lightning protection and grounding requirements of the respective systems of the communication base station and the power tower, the impact of the towers on ...

## Analysis and Investigation on Lightning Electromagnetic Coupling

Mar 22, 2018 · To study the coupling effect of an antenna near the lightning channel when the wireless base station lightning rod is attacked by lightning, the simulation models of lightning ...



### High Voltage Solar Battery

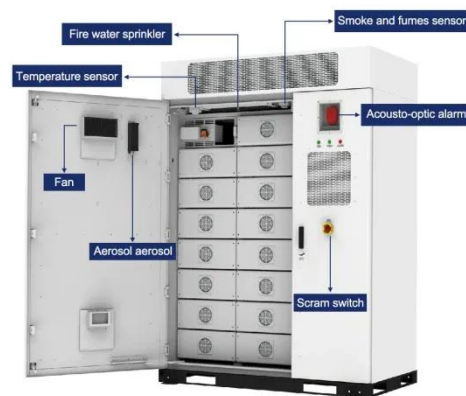


## Impact of secondary effect of earth potential rise caused by lightning

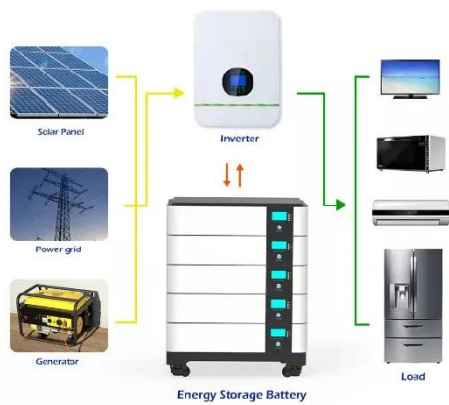
Oct 18, 2014 · The text discusses four lightning introduction channels of the base station, analyzes the impact of these lightning introduction channels on the base station, and proposes ...

## Research on the distribution of magnetic field around communication

May 21, 2016 · The communication tower leads to a regional increasing lightning density to a certain extent, which brings about more serious threat of lightning electromagnetic interference ...



## Lightning currents in DBS system from triggered-



## lightning ...

Oct 18, 2014 · This paper presents a statistical analysis of the characteristics of surge currents measured in a number of cables in a Distribution Base Station (DBS) system when being ...

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