

# Lightning protection communication base station power supply design





#### **Overview**

Does a lightning arrester protect a telecommunication station?

Lightning protection (strikes with indirect effects) for telecommunication stations by lightning arresters, is applicable for all electrical networks. It is also compulsory to provide protection against lightning strikes with direct effects by placing a lightning arrester (near the top of the.

Who needs lightning protection?

or a large private subscriber / consumer (tertiary industry, others). Lightning protection (strikes with indirect effects) for telecommunication stations by lightning arresters, is applicable for all electrical networks.

How to protect against indirect lightning strikes on electrical networks?

Protection against indirect lightning strikes on electrical networks must be treated globally. ABB Soulé offers a complete range of lightning arresters adapted to this approach. They must be used in accordance with standard practice with a ground network optimized by earthing (low impedance).

What is a 3G base station converter?

In a 3G Base Station application, two converters are used to provide the +27V distribution bus voltage during normal conditions and power outages.

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  $\pm$ 12V and to provide electrical isolation. Synchronous buck converters powered off of the  $\pm$ 12V rail generate various low-voltage outputs.

How much protection does a lightning conductor need?

It depends on the initiation advance T of the OPR measured in the high



voltage Laboratory, on the levels of protection I, II, III calculated according to the lightning risk assessment guide (Appendix B of the French standard NF C 17-102) and the height h of the lightning conductor over the area to be protected (minimum height = 2m). NF C 17-102.



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How to Design the Lightning Protection Solution for the Base ...

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### Power supply lightning protection solution for 3G mobile base stations

This article discusses four aspects of 3G base station power supply lightning protection and provides a complete 3G mobile base station power supply lightning protection solution.

<u>Design of mobile base station communication</u> <u>power supply system</u>

Abstract: According to the power grid and environmental conditions of mobile base stations, a solution for the reliability,



maintainability and availability of the mobile base station ...



#### <u>Lightning protection for Telecommunication</u> <u>Stations</u>

Lightning protection (strikes with indirect effects) for telecommunication stations by lightning arresters, is applicable for all electrical networks. It is also compulsory to provide protection ...



## The Case of Lightning Protection Solutions for Electric Power ...

In order to do this properly, electric power companies should not only install lightning protection systems but implement a full and extensive lightning risk mitigation plan, which begins with ...



## <u>Lightning introduction pathways and protection</u> measures for

Lightning is very destructive. Once a communication base station is struck by lightning, it is easy to cause damage to communication equipment and interrupt communication signals, which will ...





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