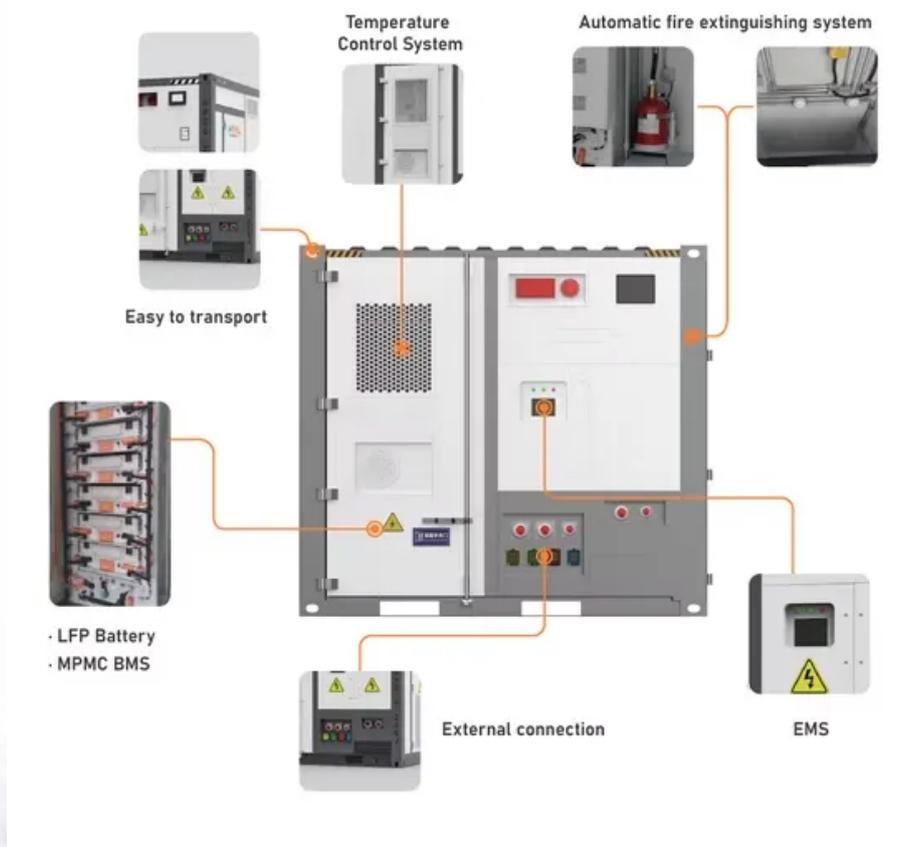


## PDEOZE PowerContainer

# How to protect the communication base station inverter



## Overview

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The protection of GSM and base station towers from lightning and overvoltage is provided by integrating external lightning systems, internal lightning systems, earthing, equipotential bonding and LV surge arrester protection techniques within the framework of IEC-62305 standard. Why should a 5G base station be protected?

In addition to potential damage originating on the power line, the base stations must be sturdy to environmental electrical hazards such as lightning and electrostatic discharge (ESD) strikes. Design engineers need to protect their 5G base stations from these electrical hazards to prevent damage to the bases station and avoid critical downtime.

How do you support a base station when AC power is interrupted?

A backup battery (block 5) is one of the best ways to support the base station when AC power is interrupted. Support the base station by: Providing a fast-acting fuse on the battery circuit for overload protection. Monitoring battery temperature rise to ensure battery safety.

How do you support a base station?

Support the base station by: Providing a fast-acting fuse on the battery circuit for overload protection. Monitoring battery temperature rise to ensure battery safety. Placing surface mount thermistors on the battery pack modules. Protecting the battery pack modules from overcharging.

Why do baseband units need electrical protection?

Figure 6. Baseband Units need electrical protection at the power circuits, processors, and I/O lines. The BBU links the AAS and the wireline infrastructure, encoding transmissions and decoding received signals while processing data from calls and transmissions.

What does a base station do?

The base station is a fixed transceiver that acts as the primary transmission and reception communication hub for wireless devices. The base station modulates baseband information and transmits it to mobile devices. Base stations also receive mobile device transmissions, modulate them, and send them to the wireline infrastructure.

How does a macro base station work?

In a macro base station application, input protection, rectifier, and filter convert the AC input to DC. Since it interfaces with the AC line, it needs the full suite of overcurrent and overvoltage transient protection.

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Protecting The Baseband Unit  
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The baseband unit processes data from calls and data transmissions and links data between the wireline infrastructure and the AAS. Additionally, this device either encodes transmissions or decodes received signals. Note that the baseband unit has its own power supply, as shown in Figure 1. See more on [allaboutcircuits chrisnell \[PDF\]](#)

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