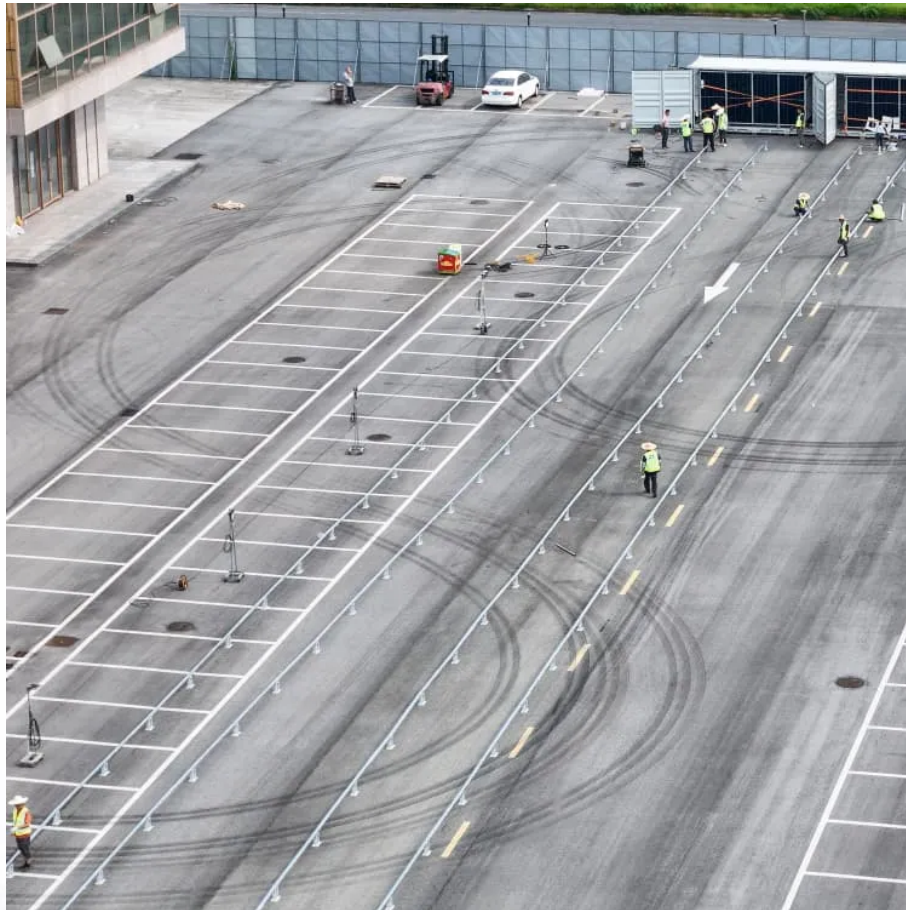


5g communication base station backup power supply





Overview

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.

What is backup power in 5G HetNet?

Especially for the cloud radio access network (C-RAN) scenario with many baseband units (BBUs) pooled together, it is natural and convenient to supply backup power for those BSs all together. The scenario of 5G HetNet consisting of macro and small cells, in which the backup power is supplied by battery groups.

Does BS load rate affect the power consumption of 5G networks?

the power consumption of AAU nearly linearly increases with the growth of BS load rate, while that of the BBU is quite stable at varying load rates. As the power consumption of 5G BSs is significantly higher than that of 4G BSs, we focus on the backup power allocation of 5G networks in this work.

What is a power supply and backup battery system?

Overall, the power supply and backup battery system provide both AC line power and DC battery backup power to ensure the base station remains powered when AC line power is disabled. Figure 4 shows the circuit blocks of the power supply and backup battery system. Figure 4. Power supply and backup battery system block diagram.

Can a battery group be used as a backup power supply?

In practice, the battery groups (either traditional lead-acid batteries or emerging lithium ones) are deployed as the backup power supply of BSs. In



our scenario, one battery group could be shared by multiple BSs nearby to exploit the statistical multiplexing gain, and the multiple BSs sharing the same battery group form a virtual cell (VC).

How will 5G be used in the future?

Reprinted, with permission, from ref. In the foreseeable future, 5G networks will be deployed rapidly around the world, in cope with the ever-increasing bandwidth demand in mobile network, emerging low-latency mobile services and potential billions of connections to IoT devices at the network edge .



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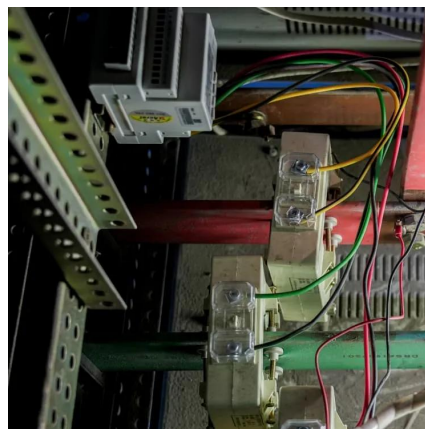


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