A-Core Container

How to choose the cooling system for the communication base station energy storage system

Overview

Are data centres and telecommunication base stations energy-saving?

Data centres (DCs) and telecommunication base stations (TBSs) are energy intensive with ~40% of the energy consumption for cooling. Here, we provide a comprehensive review on recent research on energy-saving technologies for cooling DCs and TBSs, covering free-cooling, liquid-cooling, two-phase cooling and thermal energy storage based cooling.

Why do telecom operators need a cooling system for mobile sites?

Cooling systems for mobile sites are among the primary drivers of substantial energy consumption across telecom facilities. This not only results in high energy bills but also in a significant environmental impact. Faced with such challenges, telecom network operators have no choice but to reduce their energy footprint.

Is immersion cooling better than single-phase cooling?

Kanbur et al. (2021) studied two different immersion cooling systems for DCs, including single-phase and two-phase systems (Fig. 10), and performed thermodynamic assessments. Their results showed that the two-phase immersion cooling system had a COP of 72–79% higher than that of the single-phase cooling system over a power range of 6.6–15.9 kW.

How does a telecom cooling system affect the environment?

Telecom is infamous for being one of the world’s most energy-intensive industries, accounting for 3% of global energy consumption. Cooling systems for mobile sites are among the primary drivers of substantial energy consumption across telecom facilities. This not only results in high energy bills but also in a significant environmental impact.

Why is a reliable cooling system important?

In the era of ceaseless digital connectivity, reliable cooling solutions are

paramount to safeguarding the critical telecom equipment that keeps the world connected. At AIRSYS, we develop pioneering cooling systems to ensure uninterrupted operations for telecommunications infrastructure.

What are the different phase change cooling technologies in data centres?

Yuan et al. reviewed the technical principles, advantages, and limitations of four major phase change cooling technologies in data centres, namely, stand-alone heat pipe cooling, integrated heat pipe cooling, two-phase immersion cooling and phase change cold energy storage.

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