

Humidity of finished solar container battery





Overview

Does humidity affect battery safety?

Apart from indoor temperature, indoor humidity is highly correlated with battery safety problems. The Pacific Northwest National Laboratory (PNNL) and International Business Machines Corporation (IBM) consider humidity as an ESS operating environment factor and recommend an appropriate range [12, 13].

How does humidity affect the battery life of an air conditioner?

The humidity of the ESS container should remain within the target absolute humidity range while maintaining the battery temperature within a safe operating range. Figure 8. Rule-based air conditioner control algorithm. The battery temperature increases as per the operation of the ESS, which affects the battery life.

What is a good temperature for ESS battery?

During the ESS operation period, the indoor temperature was maintained within 20–20.9 °C, and the indoor humidity was maintained at 50.2–82.3%, while the outdoor temperature was in the range of 27.7–32.3 °C, and outdoor humidity was in the range of 56.6–79.5%. High indoor humidity may corrode the battery and reduce its lifecycle. Figure 9.

Can a container-type ESS control temperature and humidity?

In this study, temperature and humidity monitoring and management issues were addressed for a container-type ESS by building sensor-based monitoring and control systems. Furthermore, a rule-based air conditioner control algorithm was proposed for temperature and humidity management.



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