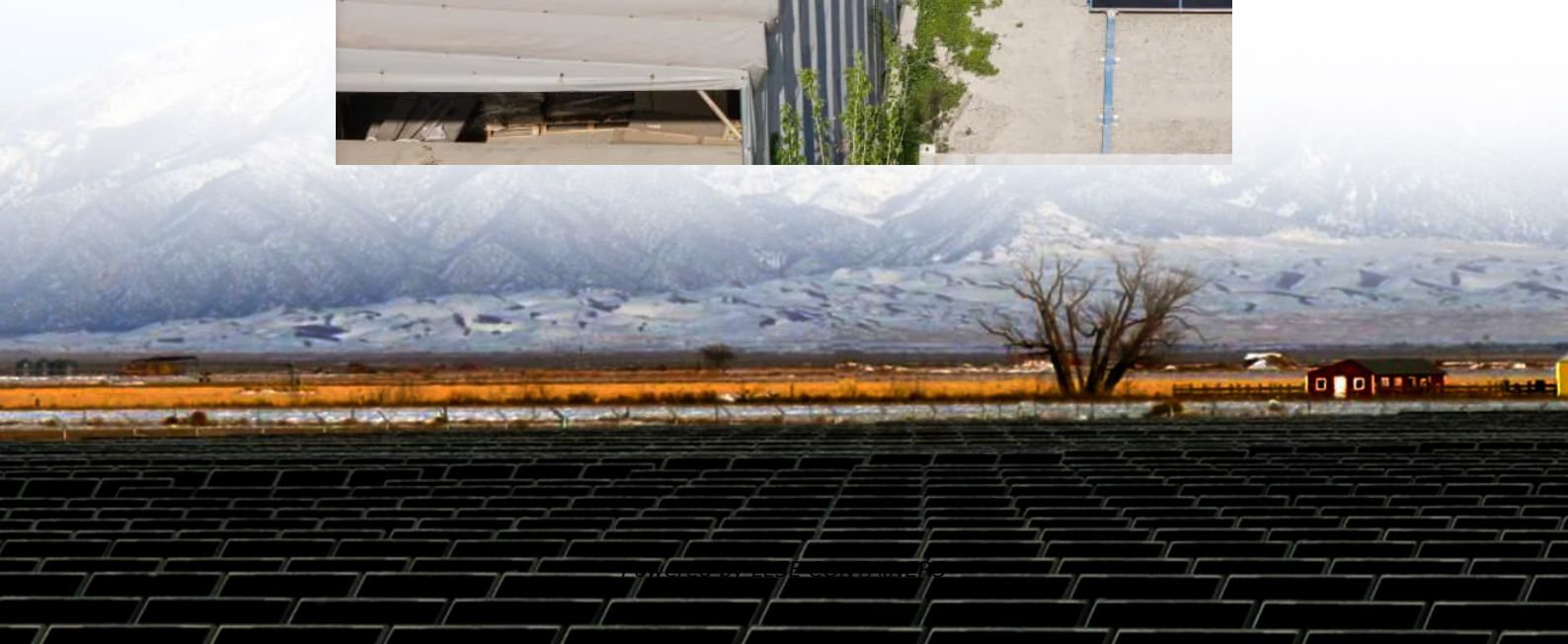


# **Reasons for battery current limiting in solar container communication stations**





## Overview

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Are solar powered cellular base stations a viable solution?

Cellular base stations powered by renewable energy sources such as solar power have emerged as one of the promising solutions to these issues. This article presents an overview of the state-of-the-art in the design and deployment of solar powered cellular base stations.

What are the disadvantages of a wireless sensor battery?

The main drawback of such batteries is their high internal resistance (ESR) and limited current capability. High ESR can prevent proper startup of the system. Moreover, if a pulsed load, typical for wireless sensors, overdrives the battery, its capacity and the lifetime can be significantly reduced.

What is the input current limit?

The input current limit is active during normal operation as well as during startup. This effectively limits the inrush current, and can also be used to reliably charge heavy loads, such as a supercapacitor, from a weak battery. The converter has eight current limit settings going down to 1 mA, as listed in Table 1.

What are the disadvantages of a low-discharge coin cell battery?

In that case, high-energy-density, low-discharge coin cell batteries such as the ones based on Li-SOCl<sub>2</sub> or Li-MnO<sub>2</sub> chemistry are often the designer's choice. The main drawback of such batteries is their high internal resistance (ESR) and limited current capability. High ESR can prevent proper startup of the system.



## Reasons for battery current limiting in solar container communication

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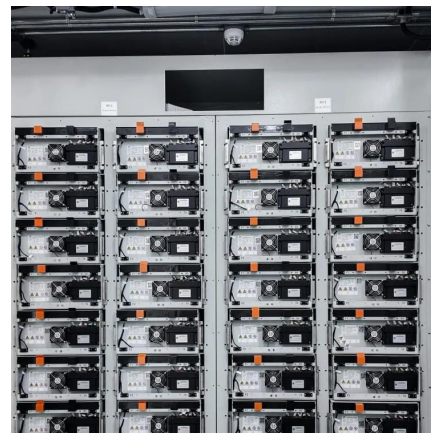
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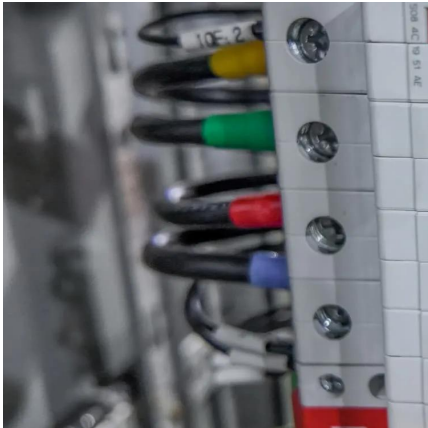
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