

Technical Note – Heating pad inside Sigen Battery

Revision History

Version 1.0, March 2024 – Initial release

Version 2.0, September 2025 – release

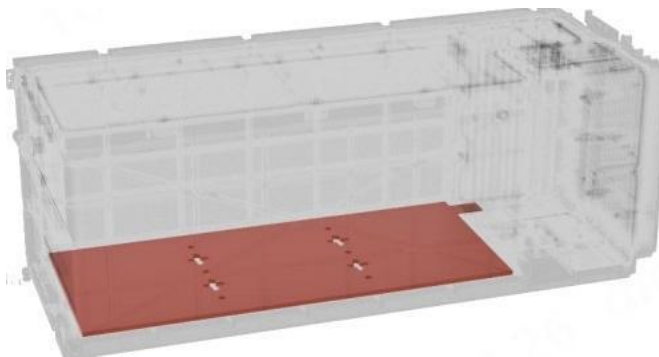
1. Introduction

Sigenenergy is committed to making green energy accessible to everyone. Our outstanding quality and design ensure that our users can rely on SigenStor regardless of their location, whether it's the hot and humid rainforests of Southeast Asia or the cold snowy days of Northern Europe.



SigenStor operating in Sweden's Cold Winte

To address the issue of battery application in low-temperature environments, we have integrated a heating pad beneath the Sigen Battery, allowing it to function even in temperatures as low as -20°C .



Heating pads are underneath the battery cells

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2. Technical Description

The heating pad is designed to cover all battery cells adequately. Below are information regarding the heating pads included with different battery packs:

Battery Module	Full power of heating pad
SigenStor BAT 5.0	250 W
SigenStor BAT 6.0	250 W
SigenStor BAT 8.0	350W
SigenStor BAT 10.0	350W
SigenStack BAT 12.0	660W

When activated, the current passing through the internal heating wire, rapidly warming the battery cells. The following conditions trigger the automatic activation of the heating pad:

- 1.The battery is in charging state.
- 2.The temperature of the battery cell is below 10°C .
- 3.The maximum charging power is restricted by low temperatures.

For instance, if the cell temperature is 5°C and the maximum charging power of cells is 1.6 kW, the heating pad will heat if the real-time charging power exceeds 1.6 kW. Conversely, if the real-time charging power is below 1.6 kW, the heating pad remains inactive.

When all the specified conditions are met, the heating pad activates automatically to provide warmth. And once the battery cell temperature surpasses 0°C,the battery will begin charging. Otherwise, the LiFePO4 battery cannot be charged for avoiding lithium plating.