BLINK SOLAR

Riyadh Solar Energy Storage Container Hybrid

Overview

What is the capacity factor of solar storage in Riyadh?

The size of the storage is 18 h capacity. After multiple iterations to maximize the capacity factor of the plant by increasing the solar multiple, the plant capacity factor is 79% with a solar multiple of 6 (LCOE 0.177 $/kWh). Fig. 9. Case 1: Riyadh baseline hourly generation CSP-PT SM = 6.

What is the capacity of solar storage in Riyadh vs Tabuk?

The size of the storage is 18 h capacity. After multiple iterations to achieve the same capacity factor of the Riyadh plant which is 79% the solar multiple is 3.5 with an LCOE of 0.137 $/kWh. This is a rather strong contrast to the Riyadh case which required a solar multiple of 6 and is attributed to the high DNI in Tabuk versus Riyadh.

How many solar multiples are there in Riyadh?

In Riyadh, the solar multiple ranged from 2.9 to 3 with the PV portion of the plant having a nameplate capacity equal to that of the CSP portion and 1.95 for a case with the PV nameplate capacity 60% greater than the CSP portion. For these same cases in Tabuk, the solar multiples were 1.78–1.85 and 1.6 simultaneously.

What is the LCOE of a CSP hybrid plant in Riyadh?

This results in a baseline LCOE of 0.177 $/kWh for Riyadh and 0.137 $/kWh for Tabuk. 3. The hybrid concept with a PV plant added to the CSP original baseload plant, the results show a reduction in LCOE of 18% for Riyadh and 7% for Tabuk keeping the plant capacity factor at a high 79%.

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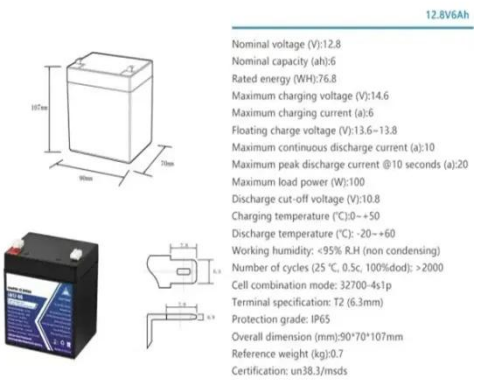

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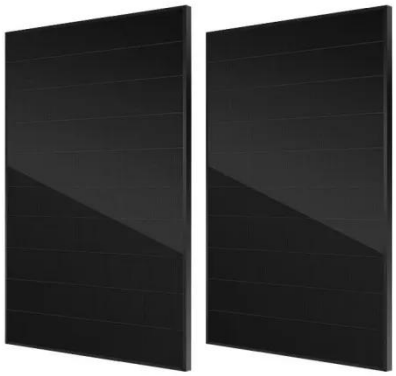

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