

Case Study - Foundation Work



AEE BESS combined with an electric air compressor



- Loading: Electric air compressor x 1
- AEE Model: AEE-500 (Old version)
- Input current: 70A (30kW)
- Duration: 2.5 hour (147mins)
- SOC: 72.1%
- Capacity: 500 kWh

To effectively pair a Battery Energy Storage System (BESS) with an electrical air compressor on a construction site, a large diesel generator is necessary for sufficient energy. However, the generator's air and noise pollution can create an unsafe working environment for workers.



The Challenge

The main challenge of pairing a BESS with an electrical air compressor is the lack of sufficient grid support on the construction site.

1. Power Demand

- Electrical air compressors often need to operate continuously under high power demand. They are usually paired with a large diesel generator.

2. Insufficient Power Grid

- Many construction sites are often situated in areas with a weak power grid. As a result, the limited power supply from the grid cannot meet the high energy demands of electric air compressors. However, electric air compressors are essential for foundation work.

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The Result

- **Reduces Carbon Footprint:** By lowering diesel usage, BESS contributes to a decrease in greenhouse gas emissions, supporting global sustainability goals.
- **Enhances Energy Efficiency:** The system optimizes energy use, allowing for smoother operations and reduced waste, further promoting sustainable construction practices.
- **Air Quality Improvement:** With zero emissions, the BESS eliminates harmful pollutants associated with diesel generators, enhancing air quality and reducing health risks for construction workers.
- **Safe working environment:** The BESS operates quietly, significantly decreasing noise pollution. The reduction in noise and air pollution fosters a safer and more comfortable atmosphere, ultimately leading to improved worker productivity and morale.

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