

Wind-resistant solar-powered container for tunnels





Overview

The operation safety of high-speed railways has received great concern globally in recent years. The power supply of the electronic monitoring devices alongside high-speed railway tunnels and their maintenance.

What is a solar container?

The Solarcontainer is a photovoltaic power plant that was specially developed as a mobile power generator with collapsible PV modules as a mobile solar system, a grid-independent solution represents. Solar panels lay flat on the ground. This position ensures maximum energy harvest. Panels lay flat on the ground.

What is a portable wind energy harvesting system?

A portable wind energy harvesting system is designed for self-powered applications in a high-speed railway tunnel. The H-rotor and S-rotor are integrated to harvest energy from the natural wind and the piston effect in the tunnel. The electrical energy was stored in supercapacitors to power the monitoring sensors of the high-speed railway tunnel.

Why do you need a solar container unit?

Our solar containers ensure fast deployment, scalability, customization, cost savings, reliability, and sustainability for efficient energy anywhere. With our pre-configured solar container unit, you can get going quickly, and the folding solar panels for containers can be deployed in less than three hours.

What uses the stored energy in the remote HSR tunnel?

The stored energy has multiple usages in the remote HSR tunnel, such as powering the monitoring sensors, emergency lights, and tunnel ventilation system. Fig. 1. Flowchart of the proposed wind energy harvesting system. Fig. 2. Installation of the wind energy harvesting system. Fig. 3. Prototype of the WEHS.



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