



MODERNIZATION SOLAR

# Energy consumption dual-control solar glass





## Overview

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Can dual-band electrochromic windows reduce energy consumption?

The simulations demonstrate the superior capability of dual-band electrochromic windows, when coupled with an intelligent control strategy, in reducing total annual energy consumption for heating, cooling, and lighting by up to 27% compared to the best-performing static solar control glazing systems.

How a dual-band ECM based building window can help reduce energy consumption?

The dual-band ECMs-based building windows can thus regulate the indoor temperature to reduce the energy consumption for heating and air-conditioning systems. Therefore, the wide application of ECMs in building windows will contribute a lot to establishing an energy-saving society.

What are the benefits of dual-band electrochromic smart windows?

Dual-band electrochromic smart windows enhance office energy efficiency by up to 27%. Electrochromic smart windows cut visual discomfort levels by 32% compared to static glazing. Intelligent control strategies reduce annual energy use for heating, cooling and lighting.

What is the solar modulation ability of dynamic glazing panel?

The mean solar transmittances ( $\tau_{solar}$ ) of the dynamic glazing panel in heating and cooling modes are  $\sim 0.7$  and  $\sim 0.01$ , respectively. The solar modulation ability,  $\Delta \tau_{solar}$ , which is the difference of the mean solar transmittances in heating and cooling modes, is  $\sim 0.69$ .



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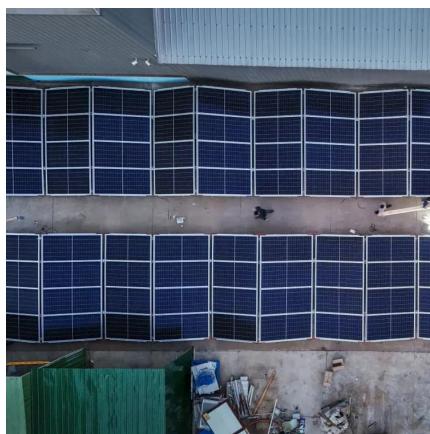
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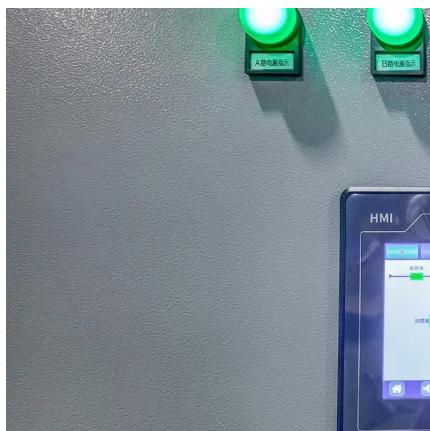
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