Intelligent façade control by Horiso

The Horiso system reduces energy consumption in sustainable built environments, writes **Kevin Gomez.**

AUSTRALIAN commercial property is benefitting from a new sun control system that can boost a building's sustainability credentials. Australian owned company, Horiso, has developed a system that tracks and calculates the Sun's angle of incidence (SAI). This, in combination with new shading-device technologies, can reduce the energy footprint of commercial buildings.

By integrating intelligent-control of the façade's louvers and sun-shades into the building-management system, microprocessors ensure each single shade and individual louver adjusts according to the angle of the sun ensuring the exact position required to achieve maximum heat and light control.

The building's geographical location, characteristics and position are overlayed with the architect's drawings and satellite data, factoring in the Sun's angle of incidence, and streamed continuously to each individual blind, sunshade and Venetian. This process interacts with the air conditioning and lighting systems to achieve maximum energy efficiency and optimal light around the clock.

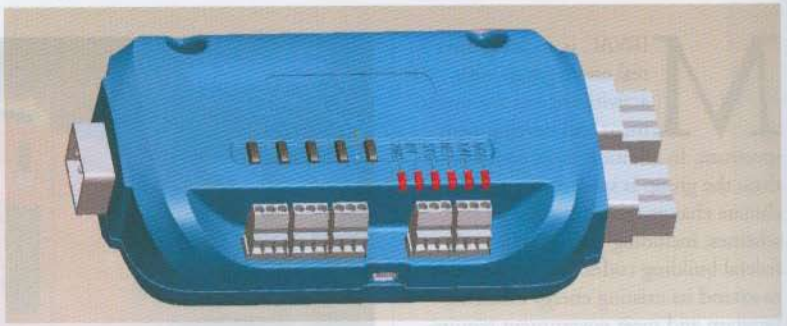
The Horiso Dynamic Façade Controller is a two motor controller designed specifically for the operation of motorised shades. In addition, each controller is capable of accepting six dry contact inputs. Programmable layers allow for the addition of sensors and A/V system integration. The controller can operate stand-alone or networked using BACnet/ MSTP over RS-485.

"The comfort and well-being of the occupants is enriched, no matter the climate, with maximum light and reduced all round energy consumption," says Bruno Seguin, general manager of Horiso. "Our system is proactive, not reactive and we control not just the heat but also the light."

To measure return on investment (ROI), one needs to factor in variables such as building volume, façade type and how the control system integrates with the building management system. "But ROI can be really quick," Seguin told *PACE*. "It allows you to reduce the size of the building's air conditioning unit; so at the purchase price itself, you may already recover your investment." With the right shading device, there can be 93 per cent reduction in solar transmission and a cooling cost reduction of up to 69 per cent, depending on the building configuration.

Until Australian blind-manufacturer, Horiso developed the first Climate Ready Dynamic Façade, the only alternative was the legacy system which relied on an astronomical clock that used an aggregate history of Australian sunlight statistics over the past 10-years and set the sunshade monitor to rotate at the same time of the day, every day.

Sun-up or sun-down were the only options. There was no allowance for glare, shade or light reflection from neighbouring buildings, cloud cover or unseasonal weather. This resulted in the all-too-familiar experience of blinds going up when they should be down and similar precarious scenarios, with the ensuing haywire effects on lighting, temperature and energy control. Overlooked by the historical method was that every façade, level and angle of a property – north, east, south and west – is subject to different aspects of the sun and clouds every minute of the day. The Horiso Dynamic Façade Controller uses BACnet protocols which ensure easy integration with all other building management system. Such systems can be combined and remotely controlled and monitored from any location with a unique Graphic User Interface (GUI).



ADJUSTMENT: Horiso's Dynamic Facade Controller manages light and glare by responding actively to varying environmental conditions.

"The simple web-based system can allow each person to control the blinds that are in front of their window," explains Seguin. "It can restrict access to specific area and can also limit the level and degree of control that's provided."

The Building Automation and Control networking protocol (BACnet) allows communication between different pieces of equipment regardless of the particular building service they perform.

The external venetian blinds and louvers are typically constructed of aluminium and marine grade stainless steel. Horiso uses a highly-elastic special alloy which is bend-proof, scratch-proof and shock-proof. This also creates the perfect barrier to stop the cold entering the building

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