

view

Dynamic Glass

User guide



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Glossary

ASTM – American Society for Testing and Materials. A globally recognized leader in the development and delivery of international voluntary consensus standards, including standards for glazing.

BoS – Balance of System. All components that make up a View Dynamic Glass system other than the insulating glass units.

Busbar – A thin conductive metallic strip that runs along the two opposing edges of a dynamic insulating glass unit.

IGU – Insulating glass unit. Two or more lites of glass spaced apart and hermetically sealed to form a single glazed unit with an air space between each lite.

LED – Light emitting diode. Pertaining to the power indicator on the wall switch.

Intelligence™ – View's automated controls package.

Select™ – View's manual controls package.

SHGC – Solar Heat Gain Coefficient. Quantifies the amount of solar energy (heat) that passes directly through or is absorbed into a building through the glass. Glass with a lower SHGC blocks the highest percentage of solar heat.

Zone – Dynamic Glass windows that are controlled as a single group.

Overview

Thank you for purchasing a View Dynamic Glass system. This guide contains the information you need to operate and maintain your View Dynamic Glass system.

If you have further questions about the operation of your system, contact View's knowledgeable support staff. They are ready to answer questions about the operation, programming, and maintenance of your system and can also direct you to the technical information specific to your system configuration.

You can contact us at:

Customer Support: 855-478-8468 (GR8-TINT)
or support@viewglass.com

Control package

Intelligence™

In the Intelligence controls package, the glass is automatically controlled based on a predictive algorithm and the sensing of external conditions to calculate the optimal tint level for user control but may include wall switches as well. The Intelligence™ package comes with the View mobile app but may also include wall switches if requested.

This section describes how View Dynamic Glass™ is controlled when Intelligence™ is enabled.

Intelligence's first directive is to prevent direct glare on an occupant. Direct glare is calculated using sun penetration parameters for the specific layout of the room. When direct glare is detected, the glass will transition to its darkest state, Tint 4.

If direct glare is not detected, the glass will maintain a state that maximizes daylight.

For buildings built with strict design criteria regarding heat gain, solar heat gain thresholds can be programmed so the glass does not exceed a certain SHGC value. Heat gain thresholds are typically determined by one of the following:

- Codes and standards for the building type and climate zone
- Equipment sizing requirement
- Any other specific requirement for the project

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Below are examples of glass behavior:

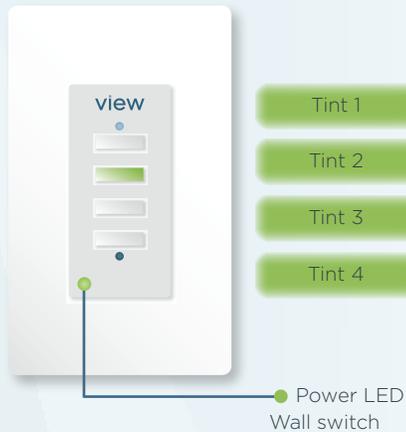
- **On clear days.** When there is direct sun penetration, the glass will transition to its darkest state. As the sun moves away or is no longer in direct view of the occupant, the glass will transition to one of the lighter tint states, depending on the detected level of solar radiation.
- **On cloudy days.** The View external photo sensor can detect instances when the sun is blocked by clouds or a shaded structure. The glass will transition to Tint 1 or Tint 2 state as there will be no direct glare and minimal radiative heat gain.
- **During the evening.** The glass will transition to the clearest state, Tint 1.

Users can override the glass using the wall switch or mobile app. Control reverts back to Intelligence™ after the override time-out duration:

Wall switch	3 hour default unless otherwise specified during commissioning; please contact your facilities personnel for your site specific setting Refer to the “Wall Switch Operation” section below for instructions on how to control your dynamic glass using a wall switch
Mobile application	User selectable time-out ranging from 30 min to 8 hrs Refer to the separate View Mobile App Guide for instructions on how to control your dynamic glass on the iPhone or iPad.*

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Wall switch operation



Responsive Control

View's wall switch gives users the freedom to change tint states by a push of a button.

Operation

The wall switch will change the tint state of the glass. The four vertical buttons correspond to the four tint states, ranging from clearest (top) to darkest (bottom).

To change the tint state of the glass, press the desired button once. A flashing light indicates the glass is currently transitioning to a tint state. During this time user override is locked out. The user must wait until the button light turns solid to choose another tint state.

The transition time, or lockout duration, depends on the size of the glass. The transition time for a 60" wide window is on the order of 30 minutes.

Power

The circular LED at the bottom left of the wall switch indicates the dynamic glass system is powered.

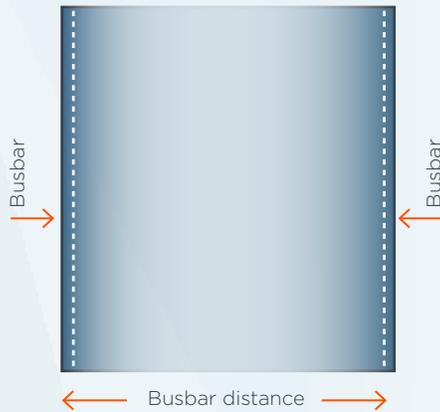
Troubleshooting

Symptom: All tint button LEDs are off

- If the power LED on the button left corner is illuminated, the window may have entered power save mode and turned off. Press any of the buttons to reactivate.
- If the power LED on the button left corner is not illuminated check on the power supply to the control system.

Symptom: All tint button LEDs are flashing

- The controller is in an error state. Hold the top and bottom buttons at the same time for approximately 10 seconds to clear the error. Contact View support for assistance if the error persists.



Visual characteristics

In certain circumstances viewers may notice particular visual characteristics in their dynamic glass. View Dynamic Glass™ is manufactured with state-of-the-art coating technology and held to stringent production tolerances to ensure that a high quality end product is shipped out of the factory. Visual observations that are not explicitly depicted in the warranty or specification should be considered as characteristics of the product. These will not affect the overall performance of the glass and are not cause for rejection.

Some of these visual characteristics are described below:

Uneven tint distribution within a window when viewed from interior or exterior.

During transition, View Dynamic Glass™ exhibits a “theater curtain” effect where the tinting or clearing begins along the long edges of the glass and gradually moves towards the center. This is due to the busbars that run along the two opposing edges of the glass. These busbars are thin conductive strips (not visible when the IGU is in a frame) that conduct the electricity to the coating. The window will temporarily look darker along these edges but will evenly distribute once full transition is complete.

Different tint levels from window to window when viewed from exterior.

Different levels of tint from window-to-window from the exterior may be noticeable at times but are a typical observation within the glass industry. The ASTM C1376-97 Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Glass states that glass with coatings such as View’s may yield differences in reflected color or intensity of light transmittance or reflectance or both. Perceivable differences are within production tolerances.

Different tint levels from window to window when viewed from interior.

Perception of optical variances (mostly observed in the darker tint states) can be fairly sensitive and affected by multiple environmental conditions such as time of day, viewing angle, temperature, angle of the sun, cloud coverage and the background behind the glass.

Small blemishes in coating that appear in tinted states when viewed from interior.

Small blemishes such as scratches or dots (pinholes), within the window are inherent with any thin film deposition technology. View Dynamic Glass™ is manufactured to meet the ASTM industry standard for blemishes. In most cases these aberrations are not visible to the occupant.

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Self-maintenance mode

View Dynamic Glass™ does not require maintenance beyond what is required of an industry standard insulating glass unit.

As a self-maintenance measure, the glass will automatically transition to the clear state under two instances:

1. Every night between 12 am—5 am (unless a different time is requested by the user) the glass will clear until the automated program takes over in the morning or user chooses a tint state.
2. If an IGU remains in a tinted state for longer than 18 hours, the glass will clear.

Balance of System components do not require routine maintenance.

Power loss and recovery

The View Dynamic Glass™ system uses UL-rated power supplies that are tested and certified to withstand power surges and other disturbances. All BoS components are tied downstream of the power supplies and will be adequately protected.

When recovering from temporary building power loss, no startup procedures are required by the user.

Without power the glass will slowly leak out its tinted state and eventually go to clear state. It will typically hold its tinted state for approximately an hour, depending on the size of the glass.

If your system does not seem to be functioning properly after a power loss recovery, please contact View customer support at 855-478-8468 (GR8-TINT) or support@viewglass.com