



InfoGlazing™ Transparent Display

The *InfoGlazing™* is an intelligent architectural window which can be instantaneously switched among three appearance states,

- ❖ Uniform translucent (opaque)
- ❖ Uniform transparent and
- ❖ See-through information display

The *InfoGlazing™* series products are specifically designed to meet customer's demands for high-end intelligent windows and doors in commercial buildings and modern homes.

Glazings (architectural windows) are important components in modern buildings. Smart or intelligent windows are becoming more attractive with the capabilities to provide privacy protection, information display, and energy conservation functions. When in opaque state, *InfoGlazing™* looks like a frosted glass for interior privacy protection. Once electrically switched to the clear state, they become a clear window. Currently, there are several technologies available for such functions, e.g., polymer dispersed liquid crystal (PDLC), polymer stabilized cholesteric texture (PSCT), suspended particles, electro-chromic, to name a few. However, none of them offers the capability to dynamically display information as does KOI's *InfoGlazing™*.

The *InfoGlazing™* products are made from a proprietary liquid crystal material. The clarity of the *InfoGlazing™* transparent state is superior with >90% photopic transmittance and <2% haze even at large viewing angles. And yet it provides ample privacy protection in the opaque state. The information mode allows for timely display in either graphic and/or text format, which can be programmed and updated as desired via a computer interface.

All *InfoGlazing™* products come with a compact power supply and a computer interface to link to the customer host computer. Customers have the option to choose the *InfoGlazing™* substrate material and shape.



In transparent state



In privacy state



In display state

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Transparent Display

InfoGlazing™ utilizes a composite liquid crystal placed between conducting electrodes in pixilation format. In the zero applied voltage condition, the *InfoGlazing™* is in the opaque mode. When voltage is applied to all the electrodes, the *InfoGlazing™* is in the transparent mode. And when the voltages to the electrodes are applied in the pixilated electrodes, the *InfoGlazing™* displays the information. Our *InfoGlazing™* products have the added benefits of much lower haze level than PDLC technology and significantly higher transparency than suspended particle window products. In addition, the *InfoGlazing™* products can be fabricated between tempered glass or plastics sheets to meet safety glass specifications.

Potential Applications:

- ❖ Conference rooms, executive office windows and/or doors;
- ❖ Commercial advertising and store display windows;
- ❖ Counter message boards for banks, ticket box offices, etc.
- ❖ Residential houses: living-room, bathroom, entertainment room, etc.



Transparent Display Specifications

Item	Specs	Item	Specs
Thickness	8mm ~14mm	Current	< 200mA/m ²
Size	Up to 1.4m x 3.1m	Power consumption	< 10 W/m ²
Pixel size	0.1 – 5 mm	Switching time	< 15 ms (20° C)
Inter-pixel gap	<0.05 mm	Clear state transmittance	90%
Pixel format*	Up to 1024 × 1024	Haze	< 2%
Frame rate	15 s per frame (15 ms/line)	Viewing angle	180°
Storage temperature	-20° C to 70° C	Switching cycle	10 ⁶
Operation temperature	-15° C to 90° C	UV stability	30WUV-B, 3000 hours
Driving Voltage	< 40 V	Life time	> 10 years (in-door)