

# LCG<sup>®</sup>

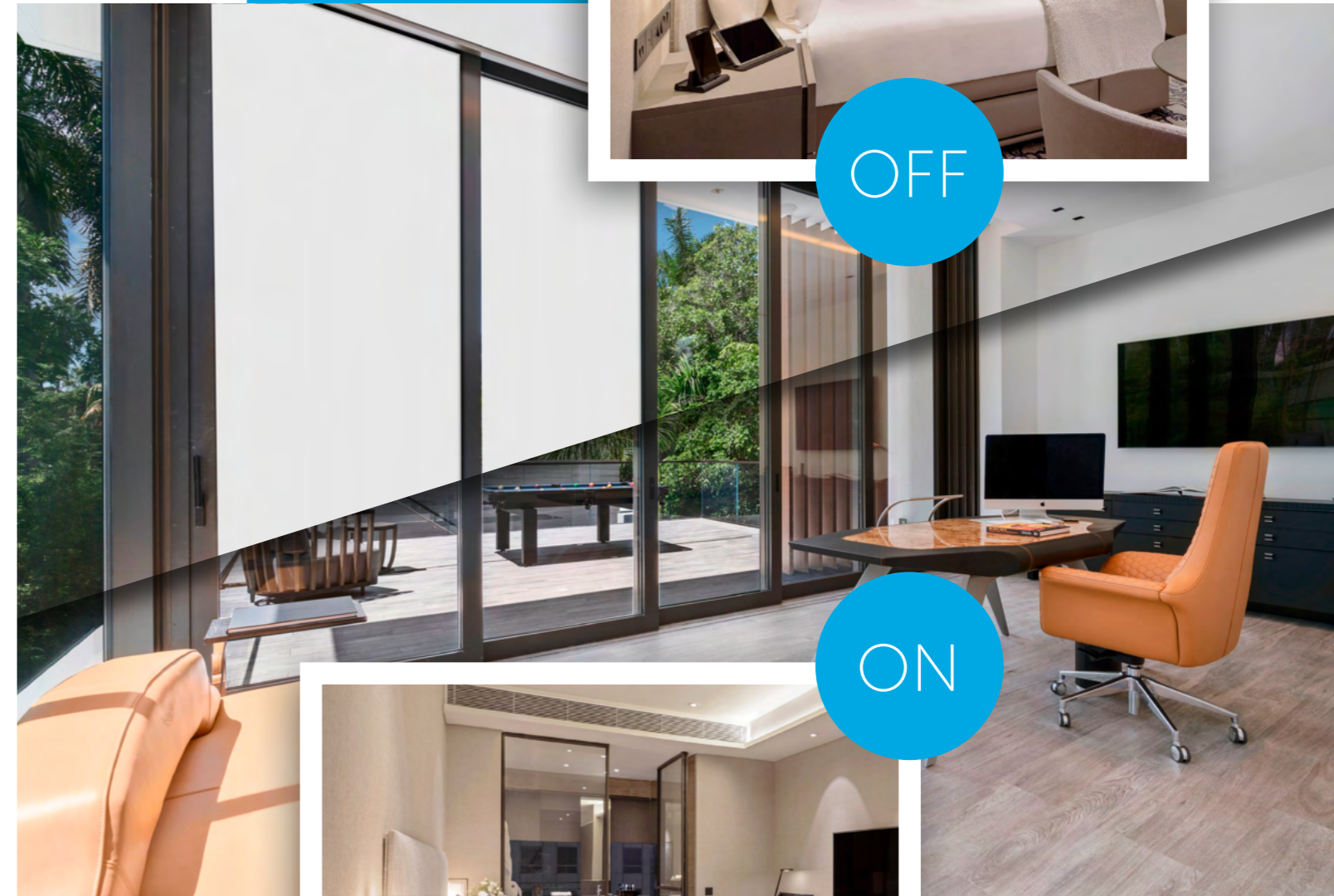
## LIQUID CRYSTAL TECHNOLOGIES

Gauzy's liquid crystal based products allow glass to switch from opaque to controlled levels of transparent in less than 0.1 seconds.

Controlling various types of light, paired with switchable features, liquid crystal LCG<sup>®</sup> supports:

- instant privacy or an open atmosphere
- solar IR reflection for temperature control
- projection compatible for HD displays when opaque, and full transparency when not in use

All of this - with less electricity than it takes to power a laptop.



OFF



ON



# PDLC Retrofit LCG<sup>®</sup> Technology

Gauzy's adhesive smart films are applied to existing glass, allowing any glass to instantly be converted into smart glass. Handled exclusively by professional window film installers, these films are designed to be easily retrofitted into existing spaces.

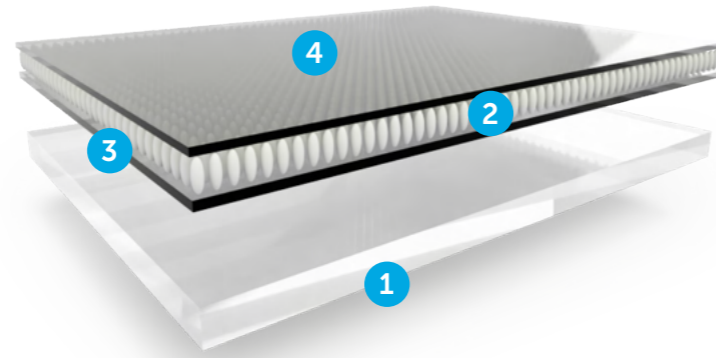
Working just like laminated LCG<sup>®</sup>, adhesive smart films support on-demand privacy, transparency, projection, and IR solar control. By retrofitting a project with Gauzy PDLC, the function of glass is enhanced from the moment installation is complete.

Adhesive smart films have a scratch resistant coating for durability, and can be installed onto almost any existing window, partition, or door, instantly transforming a space.

Films are precisely installed to ensure all wires and busbars are hidden with frames or other trimming solutions, creating a uniform and finished appearance.

### Product Types:

- White
- Grey
- IR Solar Control White



1. Glass
2. LC Film with PET-ITO
3. Dry Adhesive
4. Scratch Proof Coating



### Specifications:

	White LC		Dark LC	
<b>Film Optical Performance</b>				
Attribute	OFF	ON <sub>1</sub>	OFF	ON <sub>1</sub>
Parallel Light Transmittance	4%	74%	2.9%	48%
VLT (Total Transmittance)	67%	77%	36%	50%
Haze (ON) <sub>2</sub>	3.8%		3.8%	
Color Grade	L* = 82.3		L* = 64.7	
	a* = 0.7		a* = 0.55	
	b* = 7.4		b* = 8.2	
<b>Film Technical Properties</b>				
Switching Time	10ms			
Lifecycle	18 Million +			
Operating Temperature	-20°C to +70°C			
Power Consumption	1-3W/m <sup>2</sup>			
Film Thickness <sub>3</sub>	560µ			
Max Film Width (mm) <sub>4</sub>	1200, 1500		1200, 1500	
Cut-to-Fit	Custom Sizes, Shapes, Busbar Position; Holes and Notches			
Glass Types	Annealed, Tempered, Clear, Low Iron/Ultra Clear, IG Units, Other			
Adhesive Type	Dry			
Scratchproof Coating	Yes			
Storage Conditions	-20°C to +60°C, <50% Humidity			
<b>Electrical Performance</b>				
Controller Types	Mini, Flex, Multiplex, Custom			
Operating Modes	Fade, ON/OFF, Dimming			
Operating Voltage	48-70VAC			
Operating Frequency	25,32,50Hz			

<sup>1</sup> Optical Performance measured using square wave signals provided by Gauzy PDLC Controllers

<sup>2</sup> Haze tested on 'haze-gard i', by BYK. Results reported for LC at 25°C

<sup>3</sup> Film thickness may vary

<sup>4</sup> Films can be ordered in rolls or cut-to-fit sheets at any length



# PDLC IR Solar Control LCG<sup>®</sup> Technology

Retrofit

Gauzy's Solar Control PDLC adhesive smart film is ideal for seamless application onto existing glass to reduce HVAC cooling costs and enhance visual comfort in spaces. Blocking IR, UV, and Visible Light, Solar PDLC supports temperature control and glare reduction combined with on-demand privacy and transparency. Solar Control PDLC smart film is an easy to install upgrade, increasing energy efficiency while providing a technologically advanced, sleek shading solution to reduce eye strain while still maintaining a light filled open atmosphere.

## Key Features:

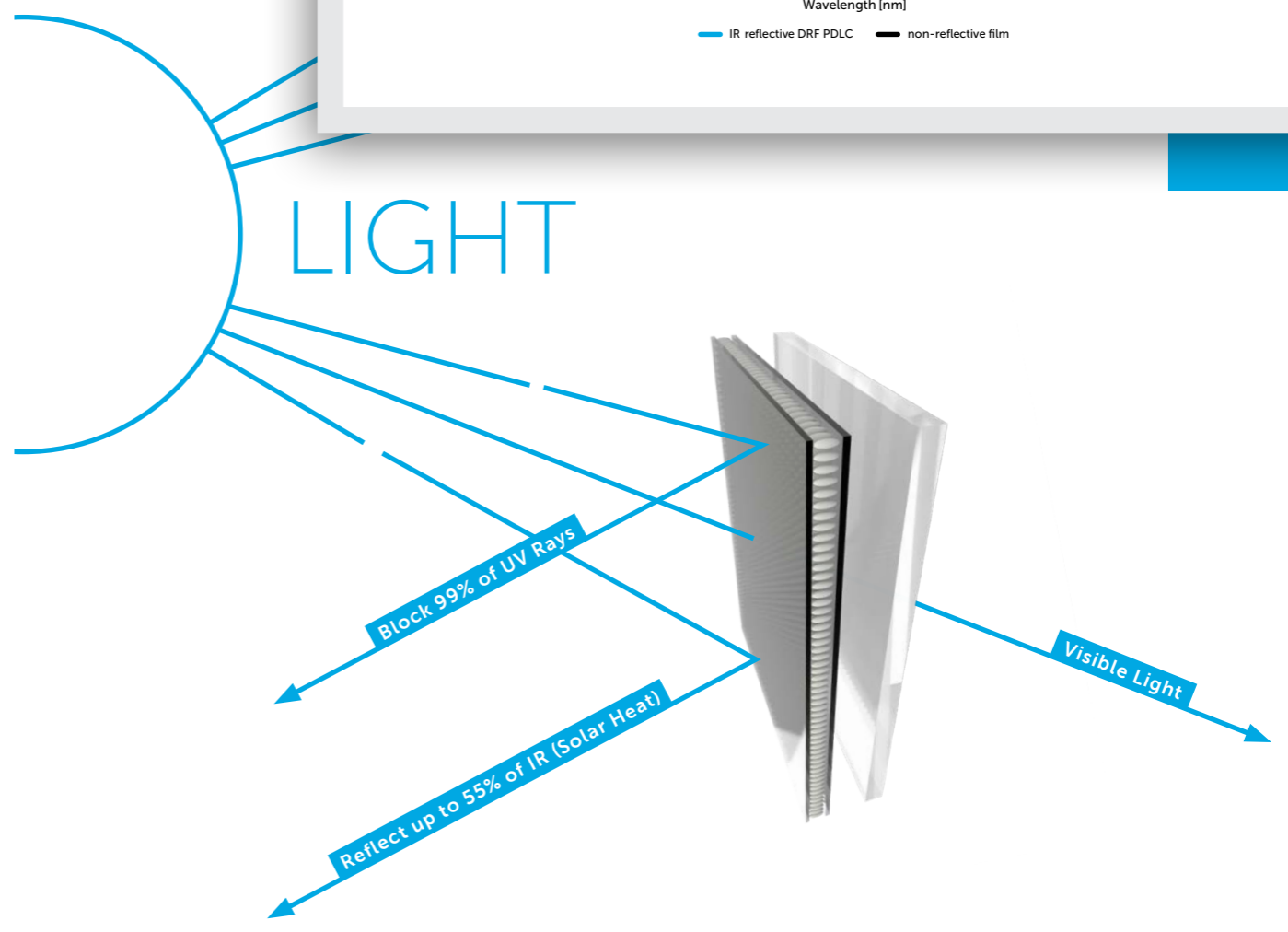
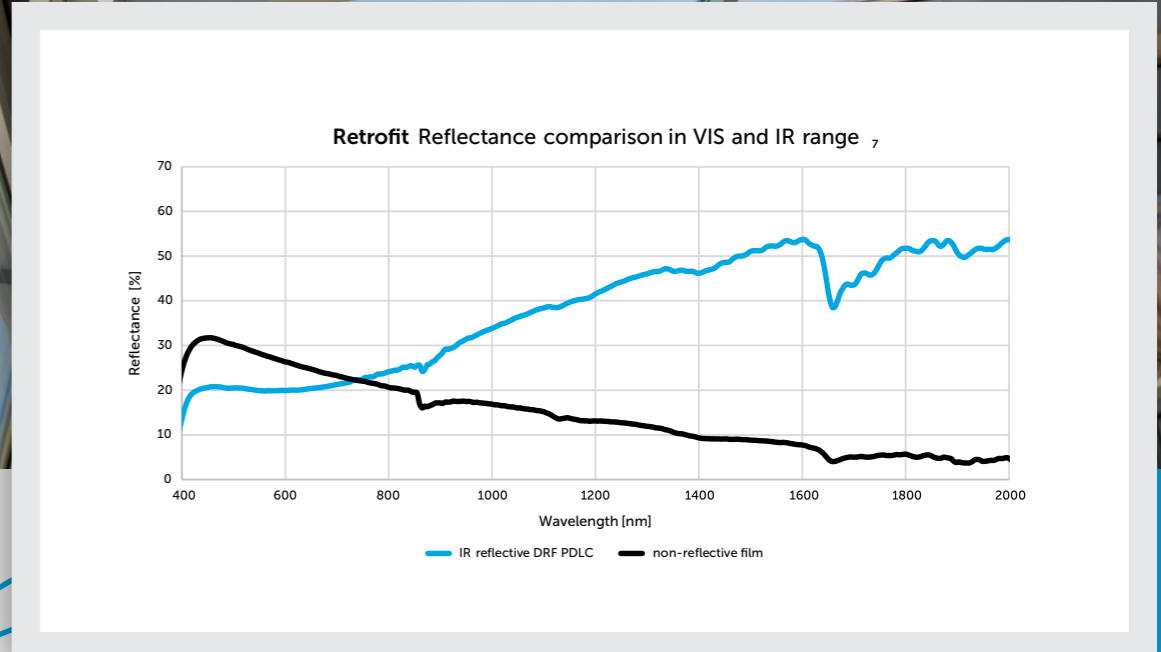
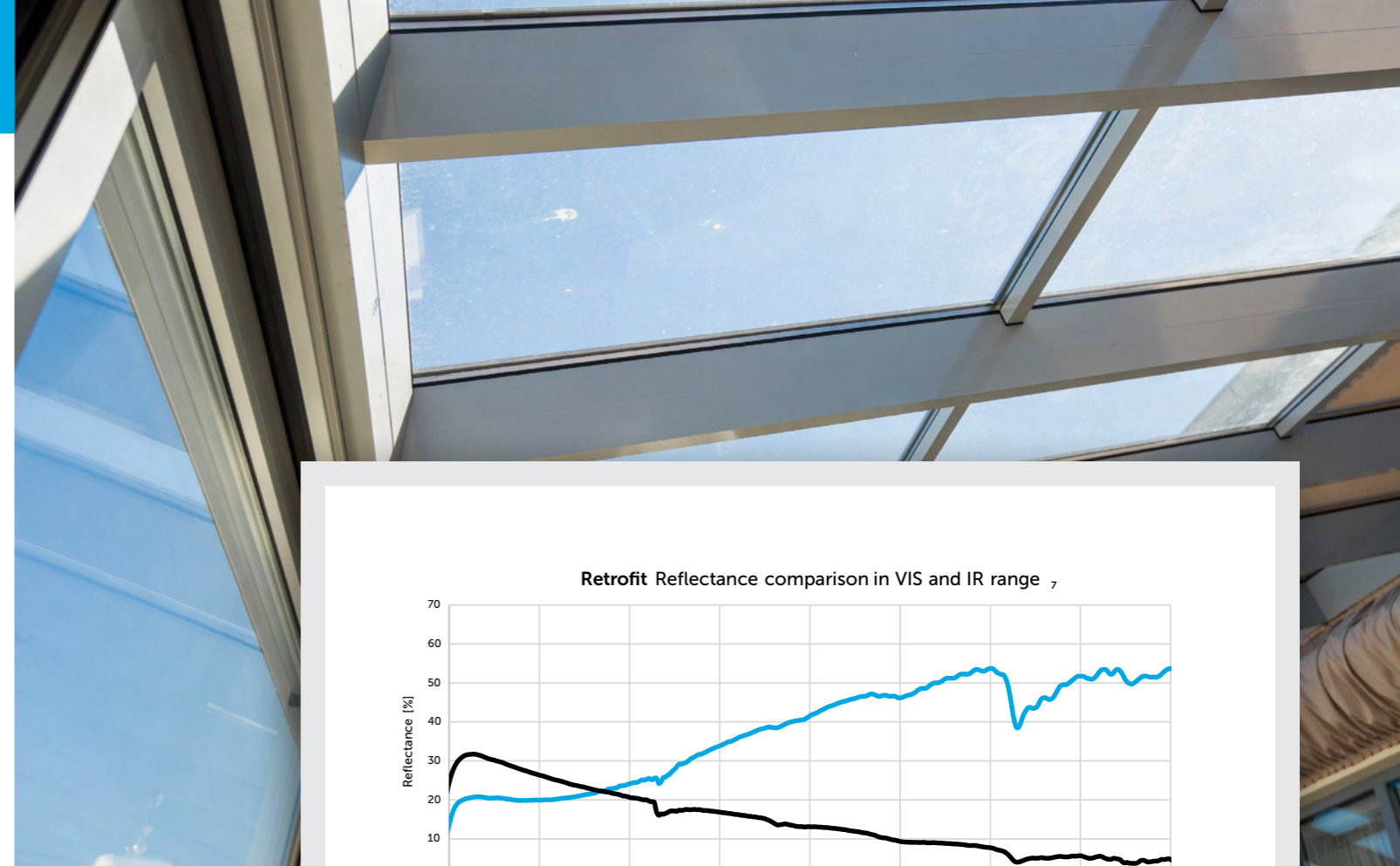
- Blocks up to 55% of Solar IR range and 99% of UV
- Reduces temperature by up to 15°C inside a space
- 60% visible light transmission when off maintains a light filled atmosphere while shading and reducing glare
- Premium optical performance with haze as low as 3.6%
- Outdoor grade, supporting architectural glass up to 1.5m wide

Adhesive smart film with solar control properties is designed to be applied directly onto existing glass windows. The product is optimized to perform in wide temperature ranges that occur in facades, skylights and atriums while complementing sleek and modern design.

## Specifications:

White Solar LC

Film Optical Performance		
Attribute	OFF	ON <sub>1</sub>
Parallel Light Transmittance	3.2%	74%
VLT (Total Transmittance)	60%	76%
Haze (ON) <sub>2</sub>	25°C	4.4%
	80°C	3.6%
Color Grade	L*	77.12
	a*	-0.08
	b*	8.92
Film Technical Properties		
Switching Time	6ms	
Lifecycle	18 Million +	
Film Operating Temperature <sub>3</sub>	-20°C to +90°C	
Film Power Consumption	1-3W/m <sup>2</sup>	
Film Thickness	505 μ	
Roll Width (mm) <sub>4</sub>	1200, 1500	
Cut-to-Fit	Custom Sizes, Shapes, Busbar Position; Holes and Notches	
Glass Types	Annealed, Tempered, Clear, Low Iron/Ultra Clear, IG Units, Other	
Adhesive Type	Dry	
Scratchproof Coating	Yes	
Storage Conditions	-20°C to +60°C, <50% Humidity	
Film Solar Performance <sub>5</sub>		
Attribute	Off	On
Visible Light Reflection - Interior	19.83%	13.4%
Visible Light Reflection - Exterior	22.02%	14.21%
UV Block	99%	99%
Total Solar Energy Reflection	29.90%	29.20%
Total Solar Energy Transmittance	39.1%	55%
Total Solar Energy Absorption	31%	15.7%
Shading Coefficient	0.56	0.69
G- Value	0.49	0.6
U- Value W/K*m <sup>2</sup>	5.88	5.88
ΔT(°C) <sub>6</sub>	Up to 15°C	
Energy Saving	For every degree reduced, Gauzy saves approx. 7% on air conditioning costs	
Electrical Performance		
Operative Controllers	Mini, Flex, Multiplex, Custom	
Operating Modes	Fade, ON/OFF, Dimming	
Operating Voltage	48-70VAC	
Operating Frequency	25,32,50Hz	



- Optical Performance measured using square wave signals provided by Gauzy PDLC Controllers
- Haze tested on 'haze-gard i', by BYK.
- Film thickness (μ) may vary
- Films can be ordered in rolls or cut-to-fit sheets at any length
- Results based on Gauzy's Solar Film retrofit on clear glass
- \* Optical measurements are carried out at different temperatures from low to high to accommodate cooling times of PDLC and glass
- Gauzy Solar LCG<sup>®</sup> reflects up to 55% of thermal IR, which reduces temperatures inside a space by up to 15°C. Solar IR = 2000nm. This is the point where thermal IR is generally benchmarked
- Above 800 nm, IR PDLC films reflectance range increases and achieves ~55%, at 2000 nm, while the regular PDLC films present ~5%



# LCG<sup>®</sup> PDLC Controllers

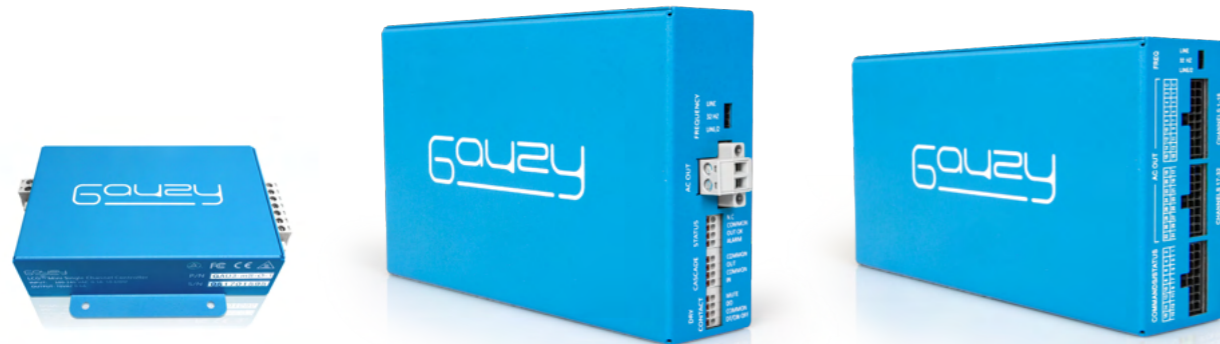
Patented controllers by Gauzy ensure the highest quality optical, mechanical, and electrical performance of LCG<sup>®</sup> laminated smart glass and smart films.

With square wave signals, controllers ensure ultra high transparency, allow films to stay on 24 hours a day, and protect smart glass against power surges.

Gauzy's mini, FLEX, and MultiPlex controllers each offer a unique set of features best suited for varying glass sizes, input channels, and user preferences.

## Features:

- On, Off, Dimming, Fade transitions
- Small form factor and footprint for easy installation
- Large drive capacity
- Advanced protection features for better ROI and MTBF
- Ultra-low voltage reduces up to 40% of power consumption
- WIFI/DMX/RS-485 compatible for easy connection to automation systems



## Specifications:

	Mini	Flex	MultiPlex
<b>Electrical Performance</b>			
Universal Inupt	110/220VAC, 50/60Hz, 450mA	110/220VAC, 50/60Hz, 1360mA	110/220VAC, 50/60Hz, 1360mA
Output Voltage	42,48,70VAC Square wave, 25/30/32/50/60Hz, 600mA	42,48,70VAC Square wave, 25/30/32/50/60Hz, 1970mA	42,48,70VAC Square wave, 25/30/32/50/60Hz, 1970mA
Supported LCG <sup>®</sup> Area (up to)	4m <sup>2</sup> / 43ft <sup>2</sup>	10m <sup>2</sup> / 107ft <sup>2</sup>	10m <sup>2</sup> / 107ft <sup>2</sup>
Dimensions (LxWxH) (mm)	125x75x35	165x104x35	224x104x35
Weight (controller only)	.44kg	.71kg	.94kg
Wall Mounting	Built-in	Mounting Brackets	Mounting Brackets
Output Channel	1	1	1 to 32
Operating Configurations	On/Off, Fade	On/Off, Dimmer	On/Off, Blinds Fade
DMX	N/A	On/Off, Dimmer, Open Interface	DMX On/Off
COM	N/A	On/Off, Dimmer, Open Interface	On/Off, Fade
Cascade	N/A	0-10VDC	N/A

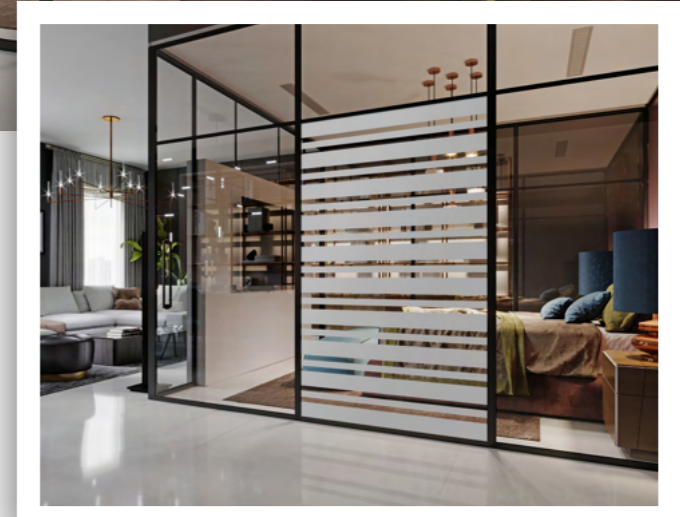


# Laser Patterned Designs

Gauzy's proprietary laser patterning machine etches lines directly into the PET's ITO coating, creating segmented films with nonvisible lines. This allows films to have dynamic patterns that appear and disappear.

Custom patterning features and unique designs with straight or curved lines and shapes provide a truly bespoke experience for users.

Laser patterned designs are available on both rolls or cut-to-fit sheets with unlimited segments. Applied busbars are included in cut-to-fit sheets.



## Features:

- 35μ lines support nonvisible etching
- Unlimited segments with corresponding busbar positioning
- Controlled by Gauzy's MultiPlex controller
- Fully customizable, including corporate logos
- Allows glass that is fully transparent, fully opaque, or dynamic with shifting patterns
- Repeat patterns available on rolls of both PDLC and SPD technologies



# LCG®

## PDLC TECHNOLOGY



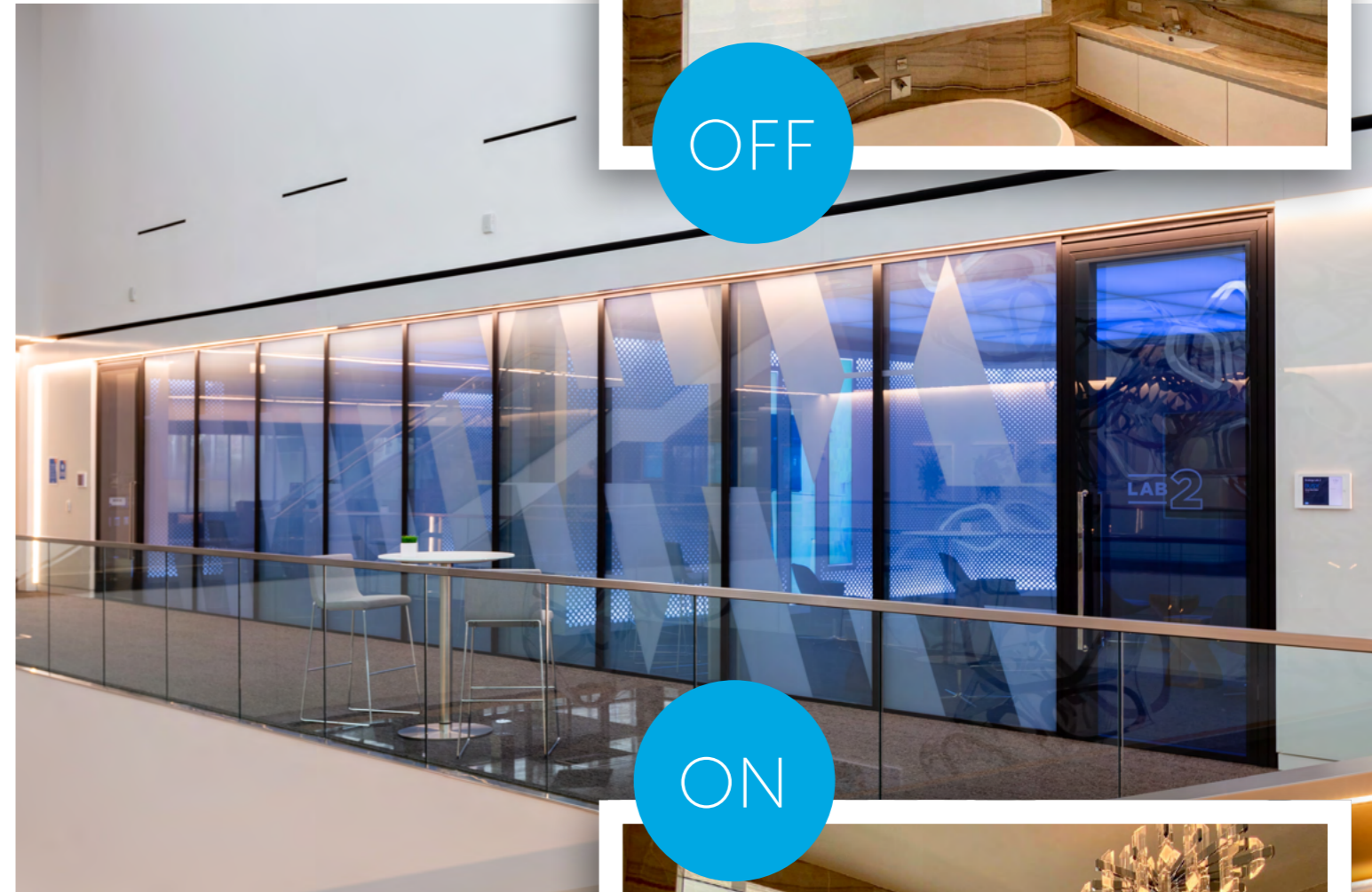
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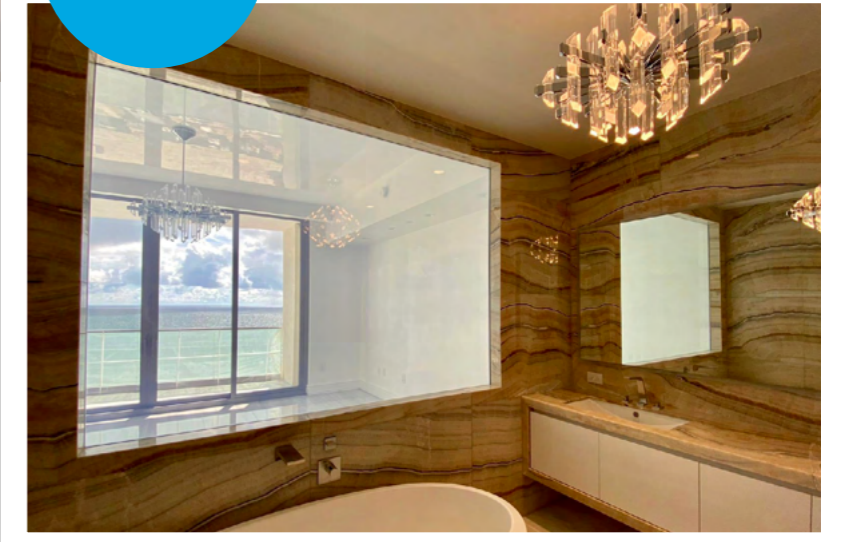
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ON



ON



### Gauzy's Advantage

- Ultra Low Haze
- 18 million+ on/off cycles and 10,000 constant "on" hours with no need for a break
- Compatible for lamination with any type of glass, large panels and curved glass
- Segmenting and patterning allows privacy control in selected areas of glass
- Gauzy's proprietary controller prevents burnout, and allows glass to be kept on 24/7
- 0-10v, DMX, or RS485 integration available for home automation systems

Industries using Gauzy LCG® Products

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Gauzy is the world leader in the development and manufacturing of Light Control Glass (LCG®) Technologies. With global distribution channels and a network of certified partners, Gauzy is trusted by leading world brands and offers Smart Glass solutions for various industries.

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