LCG®

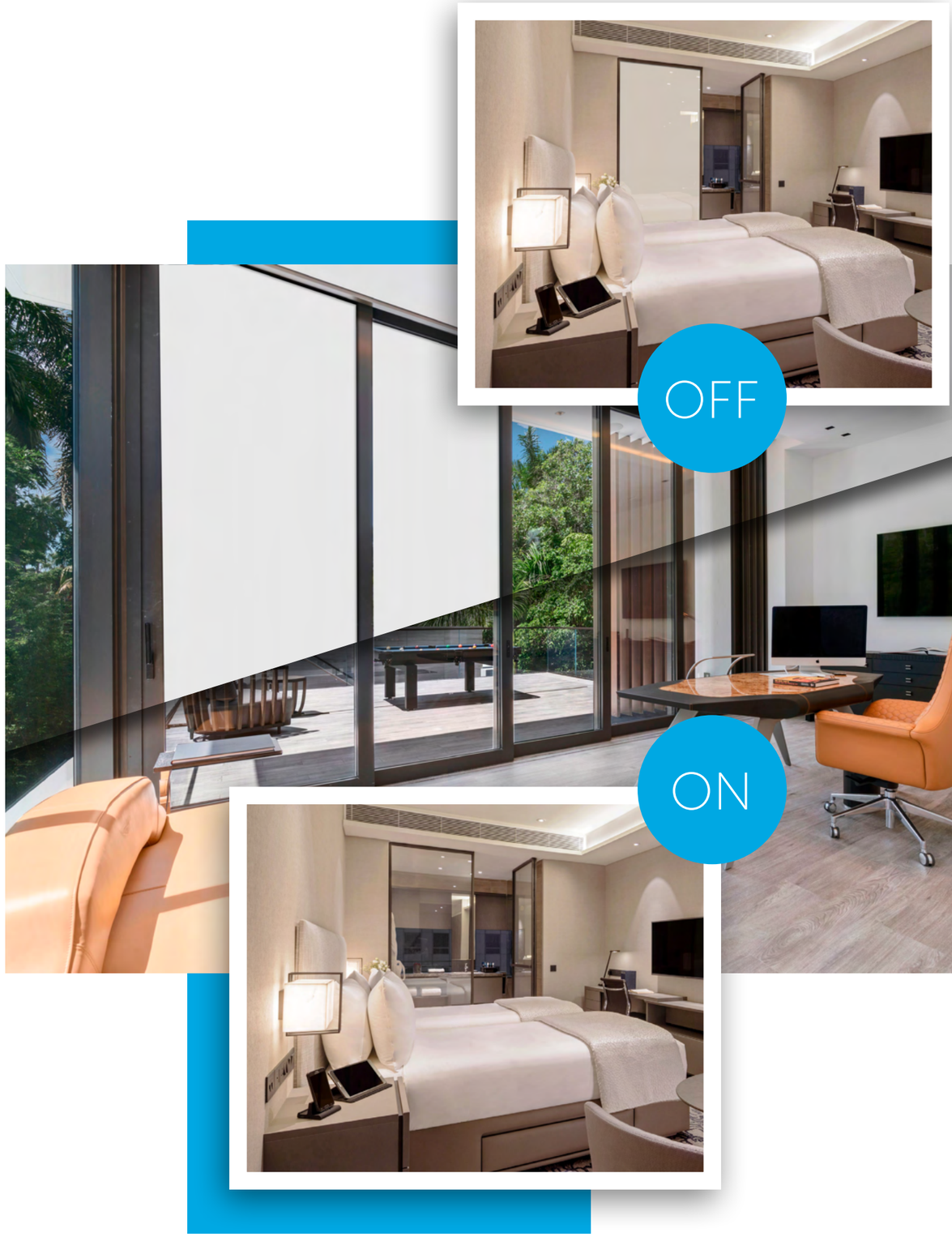
LIQUID CRYSTAL TECHNOLOGIES

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® 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.



Laminated

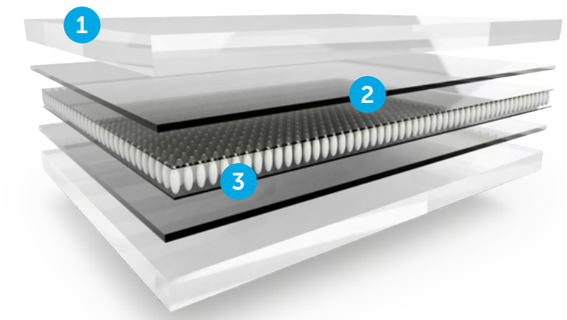
PDLC LCG® Technology

Gauzy's liquid crystal based laminated LCG® smart glass is available in indoor and outdoor grades, in varying types and sizes. Paired with patented control hardware, specifying Gauzy comes with the confidence of offering smart glass with high optical, mechanical, and electrical performance with lasting durability.

Proven to last over 18 million on/off cycles and upwards of 10,000 constant hours 'on' with no need for a break, Gauzy's PDLC is the most reliable in the market.

All PDLC films are available with invisible laser etched patterning for blinds or custom dynamic designs.

Gauzy's PDLC films are defined by ultra low haze, fast switching times, and low energy consumption.



1. Glass
2. Adhesive Interlayer
3. LC Film with PET/ITO

Product Types:

- White
- Grey
- High Temperature White
- High Temperature Grey
- IR Solar Control White

Specifications:

	White LC		Dark LC		White LC HT		Dark LC HT	
Film Optical Perfomance								
Attribute	OFF	ON [1]	OFF	ON [1]	OFF	ON [1]	OFF	ON [1]
Parallel Light Transmittance	4%	78%	3.50%	46%	3.3%	75%	2.20%	45%
VLT (Total Transmittance)	65%	80%	37%	49%	64%	80%	40%	47%
Haze (ON) [2]	2.5%		2.7%		3.0%		3.5%	
Color Grade	L* = 85		L* = 64.04		L* = 76.06		L* = 75.86	
	a* = 0.5		a* = -1.74		a* = 1.05		a* = -1.01	
	b* = 6.5		b* = -3.27		b* = 9.46		b* = 8.77	
Film Technical Properties								
Switching Time	10ms				5ms			
Lifecycle	18 Million +							
Operating Temperature	-20°C to +70°C				-20°C to +90°C			
Power Consumption	1-3W/m2							
Film Thickness [3]	375µ							
Roll Widths(mm) [4]	1200, 1500, 1800		1200, 1500		1200, 1500, 1800		1200, 1500	
Cut-to-Fit	Custom Sizes, Shapes, Busbar Position; Holes and Notches							
Interlayer Compatibility	PVB, EVA, SGP, TPU							
Glass Types	Annealed, Tempered, Clear, Low Iron/Ultra Clear, IG Units, Other							
Patterning Available	Yes							
Storage Conditions	-20°C to +60°C, <50% Humidity							
Grade	Indoor				Outdoor			
Electrical Performance								
Controller Types	Mini, Flex, Multiplex, Custom							
Operating Modes	Fade, ON/OFF, Dimming							
Operating Voltage	48-70VAC							
Operating Frequency	25,32,50Hz							

[1] Optical Performance measured using square wave signals provided by Gauzy PDLC Controllers

[2] Haze tested on 'haze-gard i', by BYK. Laminated with PVB. Haze may vary based on interlayer. Results reported for Indoor at 25°C; HT at 80°C.

[3] Film thickness may vary

[4] Films can be ordered in rolls or cut-to-fit sheets at any length

Laminated

PDLC IR Solar Control LCG® Technology

Gauzy's patented Solar Control PDLC technology blocks IR, UV, and Visible Light supporting temperature control and glare reduction for cooler and more comfortable spaces. Ideal for projects focusing on eco-conscious performance, Solar Control PDLC smart glass increases energy efficiency while providing a higher degree of occupant thermal and visual comfort combined with the benefit of instant switching between opaque and transparent.

Key Features:

- Blocks up to 78% of Solar IR range and 99.9% of UV
- Reduces temperature by up to 15°C (59°F) 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 3.3%
- Outdoor grade, supporting architectural glass up to 1.5m wide

Optimized to perform in wide temperature ranges and exterior applications like facades and skylights, this product is compatible with various glass types, coatings, lamination stacks, and IGU systems replacing unsightly traditional shading solutions.

Specifications:

White Solar LC

Film Optical Perfomance			
Attribute		OFF	ON [1]
Parallel Light Transmittance		3.2%	73%
VLT (Total Transmittance)		60%	75%
Haze (ON) [2]	25°C	3.3%	
	80°C	3.9%	
Color Grade	L*	75.86	
	a*	-1.01	
	b*	8.77	
Film Technical Properties			
Switching Time		10ms	
Lifecycle		18 Million +	
Film Operating Temperature		-20°C to +90°C	
Film Power Consumption		1-3W/m²	
Film Thickness [3]		325µ	
Max Film Width (mm) [4]		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	
Patterning Available		Yes	
Storage Conditions		-20°C to +60°C, <50% Humidity	
Film Solar Performance [5]			
Attribute		Off	On
Visible Light Reflection - Interior		14.5%	14.3%
Visible Light Reflection - Exterior		16.8%	17%
UV Block		99.9%	99.9%
Total Solar Energy Reflection		26%	42%
Total Solar Energy Transmittance		9.6%	14.4%
Total Solar Energy Absorption		56.7%	56.7%
Shading Coefficient		0.23	0.24
G- Value		0.2	0.21
U- Value W/K*m²		1.31	1.31
ΔT(°C) [6]		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	

[1] Optical Performance measured using square wave signals provided by Gauzy PDLC Controllers

[2] Haze tested on 'haze-gard i', by BYK , laminated with PVB processing. Haze performance may vary if laminated with other types of interlayers

[3] Film thickness (µ) may vary

[4] Films can be ordered in rolls or cut-to-fit sheets at any length

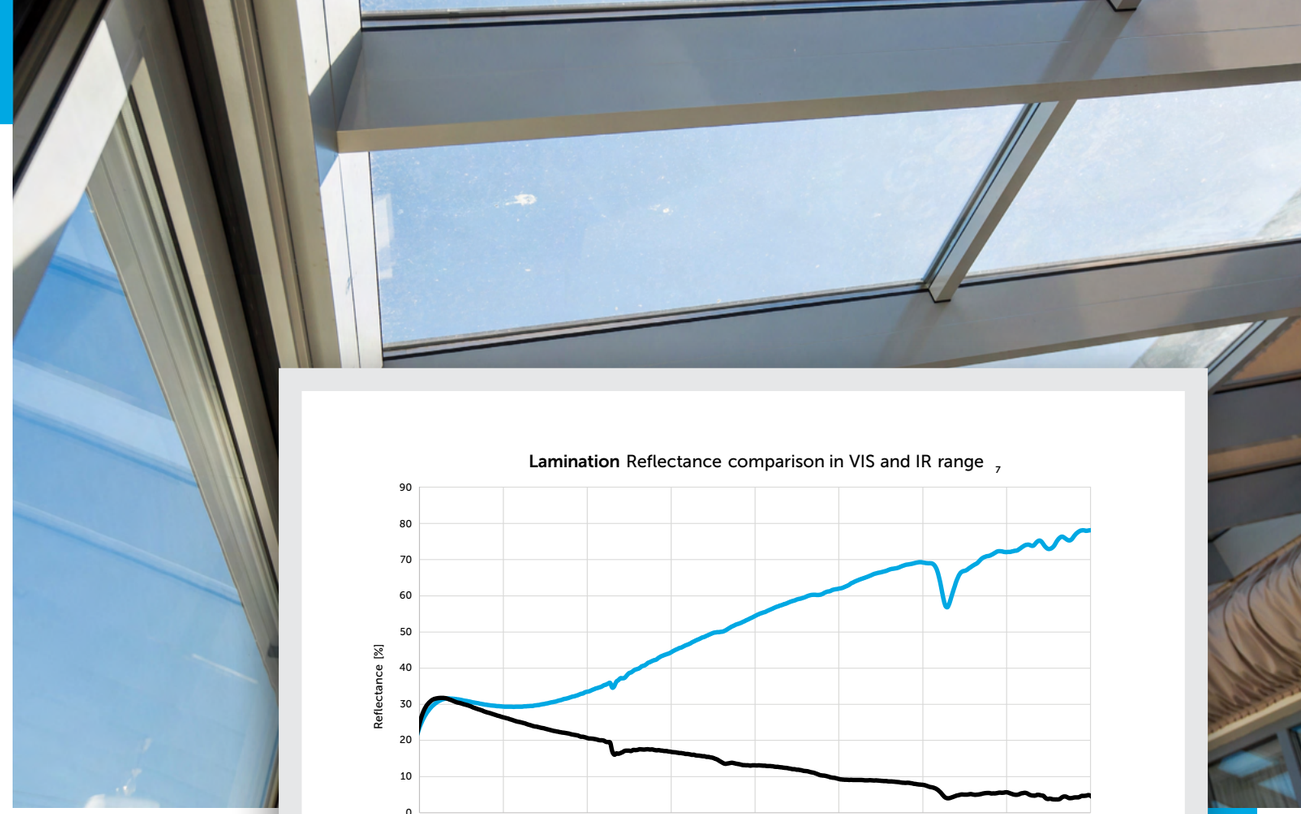
[5] Results based on IR Solar Control Film laminated and implemented in the following stack: IGU, 1/23 on 8mm Low Iron (pan #2)/16mm Argon/8mm Low Iron + 8mm Low Iron

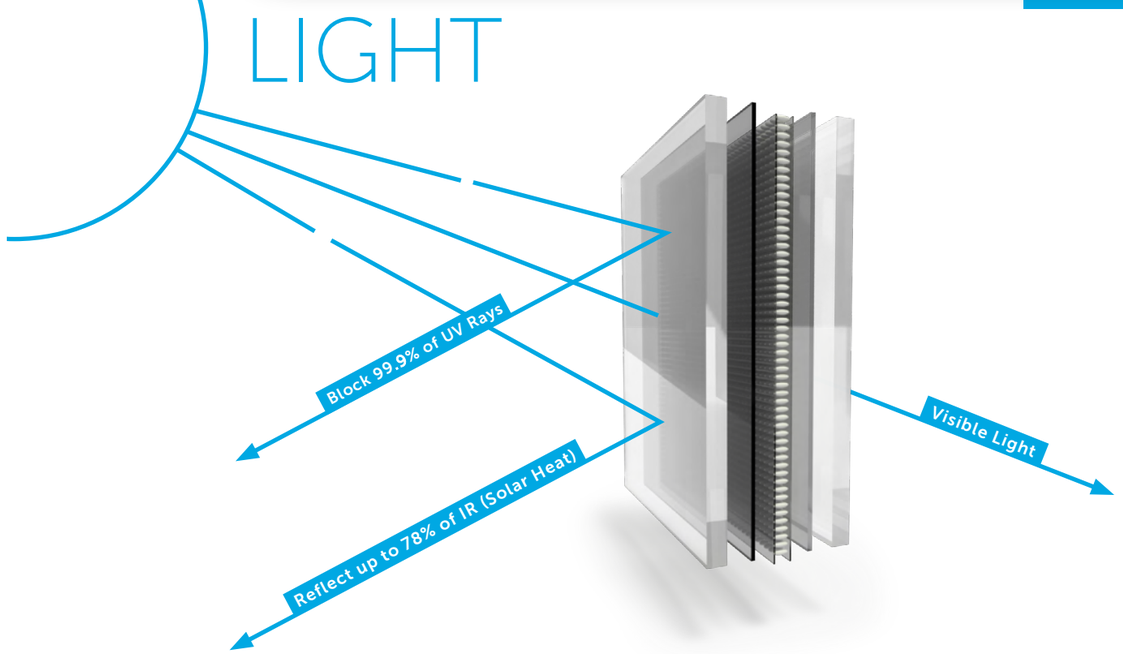
* VLT is lower for an IGU as compared to lamination. In On/Off state the light transmittance is 41% and 27% respectively

* Optical measurements are carried out at different temperatures from low to high to accomodate cooling times of PDLC and glass

[6] Gauzy Solar LCG® reflects up to 78% 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

[7] Above 800 nm, IR PDLC films reflectance range increases and achieves ~78%, ,at 2000 nm, while the regular PDLC films present ~5%





LCG® PDLC Controllers

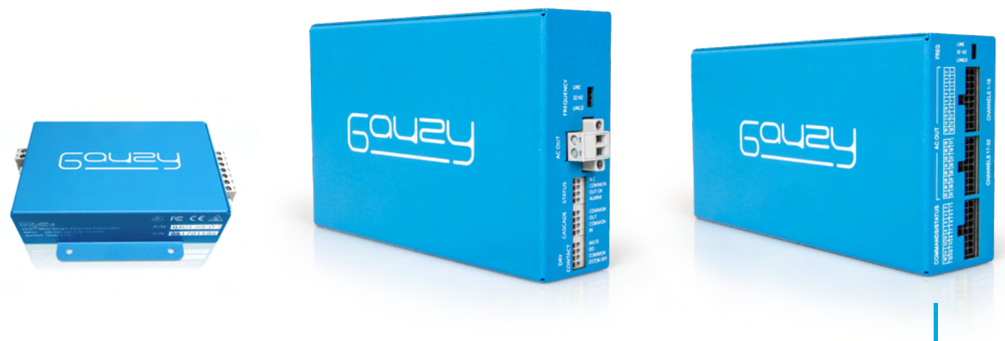
Patented controllers by Gauzy ensure the highest quality optical, mechanical, and electrical performance of LCG® laminated smart glass and smart films.

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
Electrical Performance			
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® Area (up to)	$4m^2$/ $43ft^2$	$10m^2$ / $107ft^2$	$10m^2$ / $107ft^2$
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

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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.

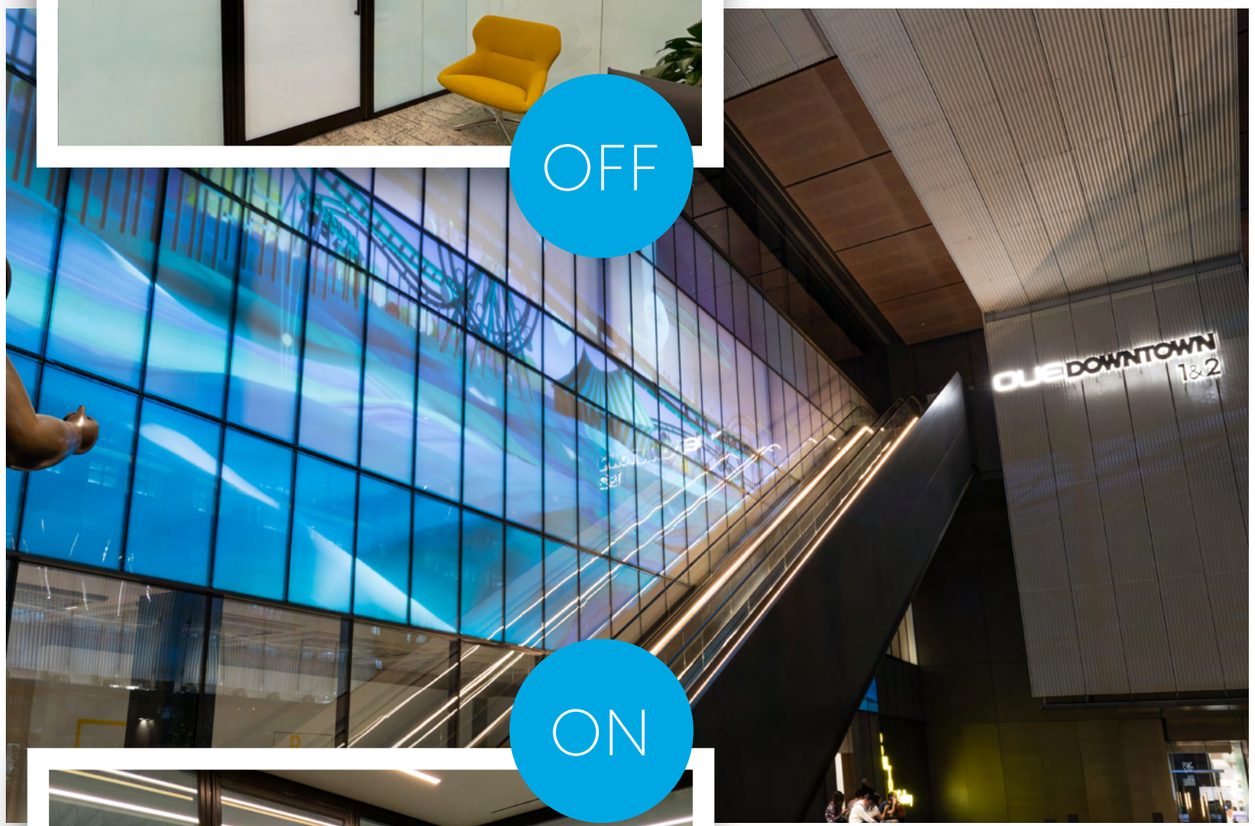
Features:

- 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

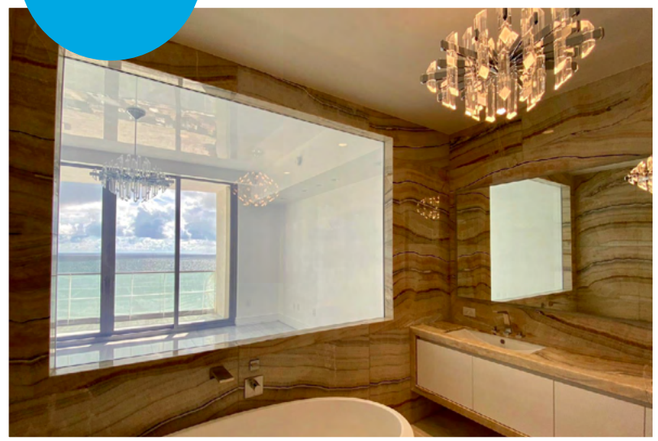
OFF



ON

OFF

ON



Gauzy's Advantage

- Ultra Low Haze
- 18 million+ on/off cycles and 10,000 constant "on" hours with no 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

Offices | Healthcare | Hotels | Retail | Residential

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.

Contact : sales@gauzy.com

Gauzy HQ

14 Hathiya Street
Tel Aviv – Yafo, Israel 6816914
+972 72 250 0385

Gauzy GmbH

Buchenstr. 2
72172 Sulz am Neckar – Germany
+49 (0) 7454 980 9500

Gauzy USA

840 F Avenue #104
Plano, TX 75074
+1 214 501 2469

Gauzy China

Room 101 Building 8 No.111 QiLianShan Road
PuTuo District, ShangHai, 200333
+86 13728994375

www.gauzy.com

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