SMARTIVO
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INNOVATIVE GLASS DISPLAY SOLUTIONS FOR TODAY AND TOMORROW

SMARTIVO ,Make Glass Do more...

Seeing More,Saving More ,Creating More

As your new and important partner in the full range of Smartivo products, we would like to introduce ourselves to you and tell you more about Smartivo, our company strategy, our product line and above all the many benefits you can obtain.

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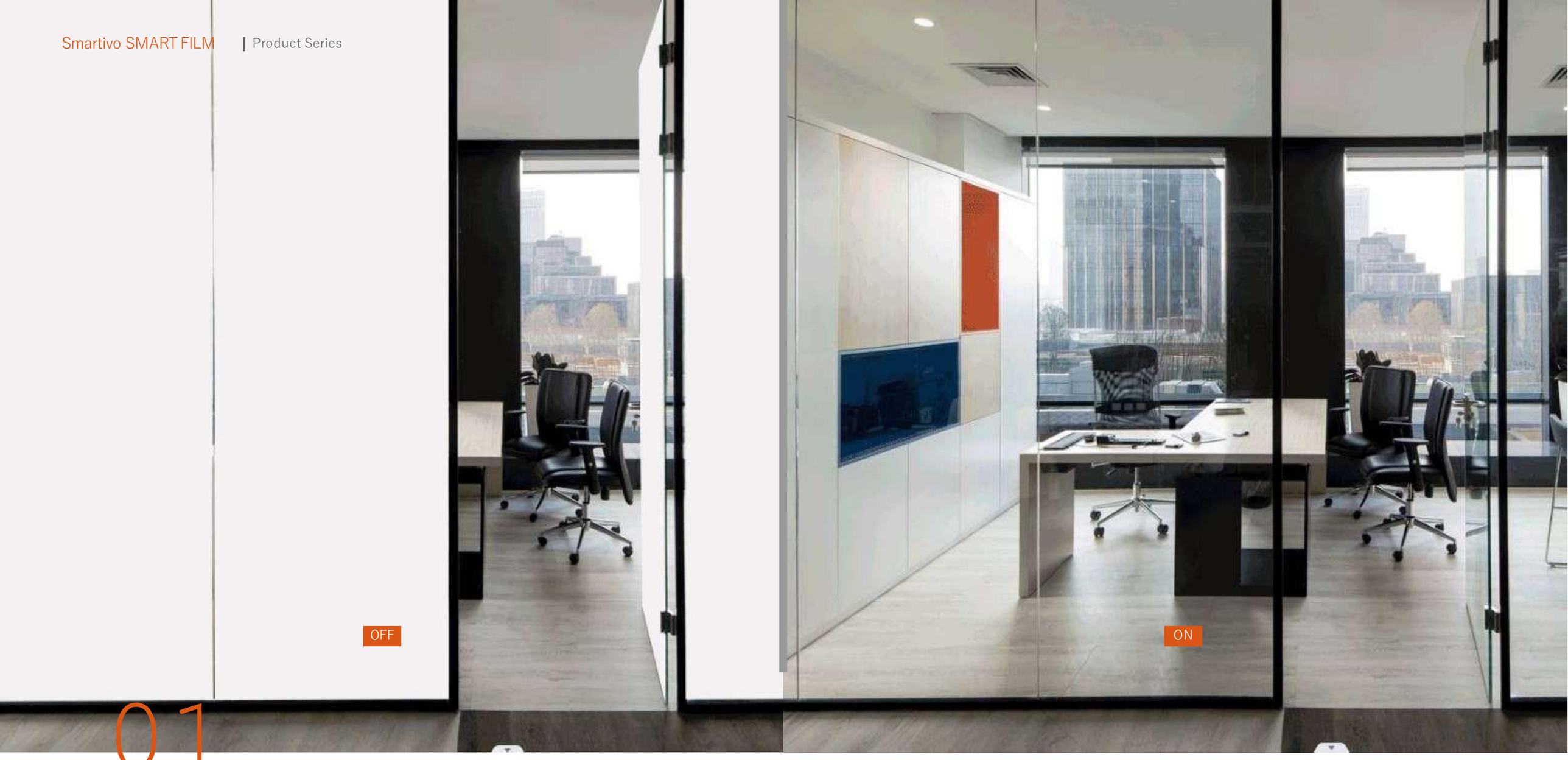

01

Smart Film Series

Classic Self-adhesive Smart Film | Classic Laminated Smart Film
| Different transparency and high temperature series
| Self adhesive ultratransparency smart film with hard coat
| Grey Smart Film | Auto Smart Film | PNLC Smart Film

Widely used in offices, hotels, banks, hospitals, shops, clubs, villas and other places.

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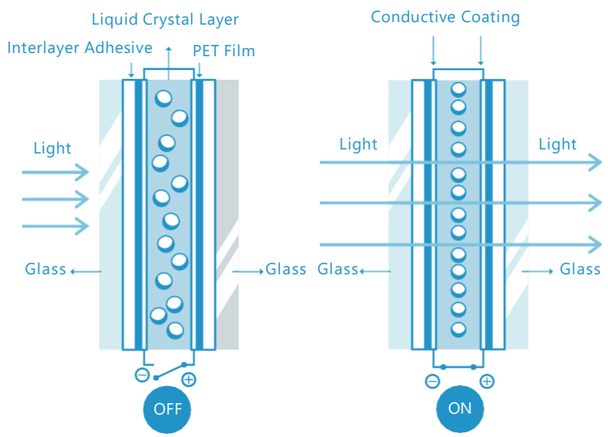
About Smart Film

Smart film is a new type of electronic light control product. The electronically controlled smart film is a liquid crystal/polymer hybrid material injected in the middle of two transparent conductive films.

PDLC film in the absence of an electric field, the electronically controlled smart film is in an opaque state.

When an alternating current is applied, the liquid crystal molecules are arranged in an orderly manner, at which point the electrically controlled dimming film changes from an opaque state (OFF) to a transparent state (ON).

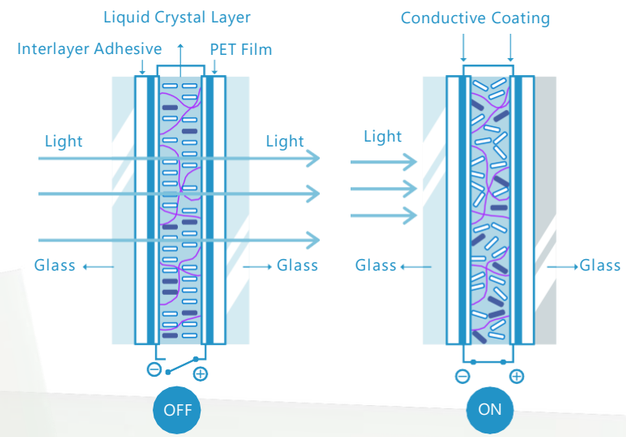


PDLC

PNLC film different from normal PDLC smart film,the working principle of PNLC film is opaque-power on,clear power off.

The electric field enables a rapid transition from the ON state to the OFF state and from the OFF state to the ON state.

Smart film is usually applied to the surface of the glass or laminated between the glass layers, making the otherwise transparent glass, more possible.



PNLC

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Privacy protection

To protect your privacy and security, you can control it to be transparent or opaque at any time. Make your space more malleable, choose open or private at will.

Touch screen and projection

Excellent image effects will be achieved Watch movies through a high-definition projector that enables multi-touch to the film.

Security

Even if the glass is broken, the fragments can still be adsorbed on the smart film, which can avoid personal injury caused by broken glass.

Environmental protection

The installation of smart film can effectively reduce the loss of decoration, which can better reduce pollution and protect the environment.

Space partition

To protect your privacy and security, you can control it to be transparent or opaque at any time. Make your space more malleable, choose open or private at will.

Cooling and UV protection

By blocking more than 98% of infrared rays, the heat insulation effect is achieved. At the same time, it blocks more than 99% of ultraviolet rays, protects indoor furniture from fading and aging, and avoids ultraviolet rays from causing damage to the body.

Anti-noise

Compared with ordinary glass, the anti-noise ability of glass using Smartivo smart film is increased by 20%.

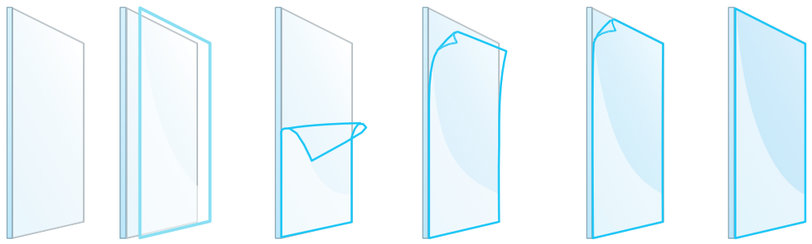
Various control methods

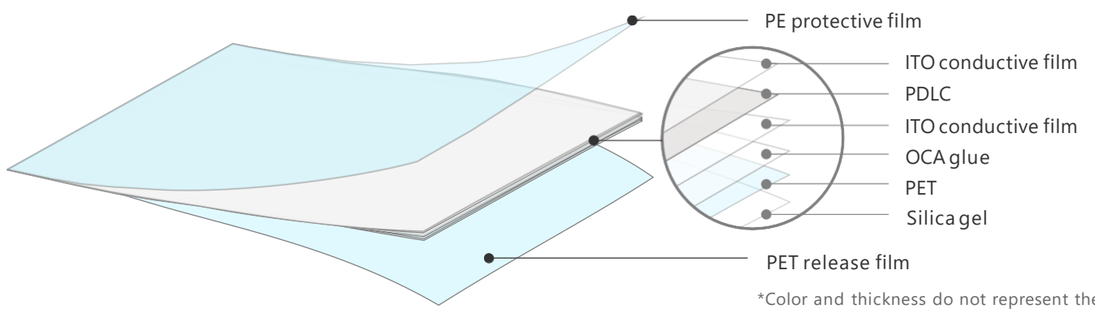
In order to meet your various needs, you can choose your preferred control method: remote control, wired control, infrared induction, voice control, mobile application, etc. In addition, an FM transformer can be selected to gradually change the film.

Classic Self-adhesive Smart Film

Self-adhesive liquid crystal smart film (hereinafter referred to as self-adhesive smart film) is covered with adhesive (AB glue) on one side of the smart film, which is used to fit the target glass.

Note: Self-adhesive PDLC films must not come into contact with water, otherwise they will be scrapped.





*Color and thickness do not represent the actual situation,only for the convenience of illustration.

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Product Size

Classic self-adhesive smart film

Items		
Thickness	Total thickness (without protective film)	0.47mm
	PDLC	0.38mm
	AB glue	90μm
	PE protective film	35μm
	PET release film	50μm
Sheet	Width	1000,1200,1500,1800(mm)
	Length	According to customer requirements
Roll	Width	1020,1220,1520,1850(mm)
	Length	≤50m/Roll
Roll tube	Inner Diameter	6 inches

Note*: This width is the actual size, the width of the calculated area is 1000,1200,1500,1800 mm

Photoelectric Performance

Classic self-adhesive smart film

Items	ON/OFF		Test Methods/Standards
Operating voltage	ON	60V	Multimeter/ Voltage Regulator,WGW
Power consumption	ON	≤ 5W/m²	Multi-parameter electric measuring instrument
Viewing angle	ON	≥ 160°	Visual Inspection
Uv blocking rate	OFF	≥99%	Optical transmittance tester
Infrared blocking rate	OFF	≥60%	
Response time	OFF→ON	≤30ms	Liquid crystal parameter integrated tester
	ON→OFF	≤200ms	
Operating temperature	--	-30℃ ~85℃	constant temperature and humidity testing machine
Lifetime	--	10 -15 years	GB18910.5-2008
Switching times	--	≥2 million times	Self-made on/off tester

Smart film is driven by AC power, colorless and transparent when power is added, and fogged and translucent when power is removed, and its photoelectric performance is shown in the table above.

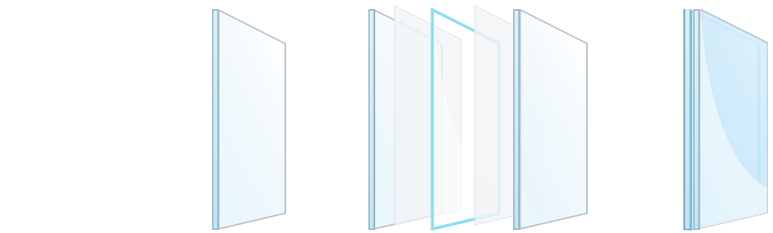
Product Transparency / Haze

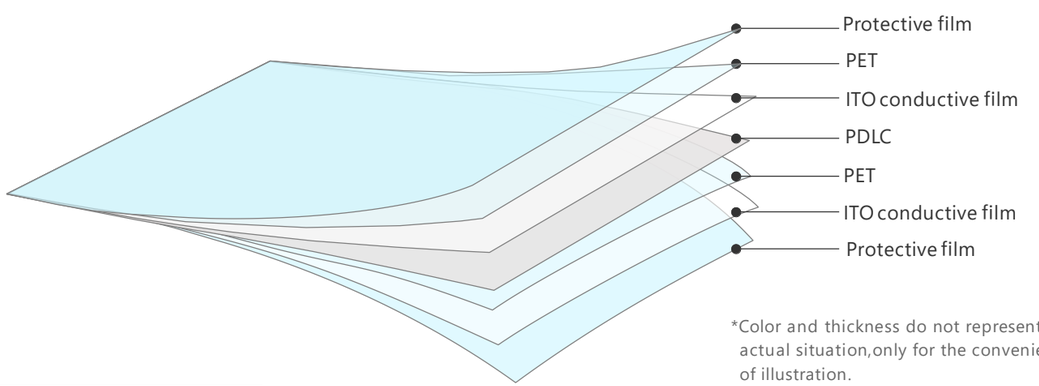
Classic self-adhesive smart film

Operating ambient temperature	Transparency	Full light tester				Parallel light tester	
		ON/OFF	Haze	Full light transmittance	b value	45° light	Parallel light
Low temperature	High transparency	OFF	94.5	78.0	5.93	/	/
		ON	4.53	84.0	3.77	58.0	82.0
	Ultra transparency	OFF	94.5	78.0	5.93	/	/
		ON	4.53	88.0	3.77	58.0	86.0
	Ultra high transparency	OFF	94.5	85.0	5.93	/	/
		ON	4.53	91.0	3.77	60.0	88.0
High temperature	High transparency	OFF	94.6	78.0	6.02	/	/
		ON	4.57	84.0	3.94	59.0	82.0
	Ultra transparency	OFF	94.6	78.0	6.02	/	/
		ON	4.57	88.0	3.94	59.0	86.0
	Ultra high transparency	OFF	94.6	85.0	6.02	/	/
		ON	4.57	91.0	3.94	60.0	88.0

Classic Laminated Smart Film

Laminated liquid crystal smart film (hereinafter referred to as smart film) is non-sticky on both sides, and can be tightly compounded with flat glass through EVA film to manufacture smart laminated glass.





*Color and thickness do not represent the actual situation,only for the convenience of illustration.

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Product Size

Classic laminated smart film

Items		
Thickness	Total thickness (without protective film)	0.38mm
	Conductive substrate (single layer)	188μm
	Protective film (single layer)	35μm
Sheet	Width	1000,1200,1400,1500,1800,2000mm
	Length	According to customer requirements
Roll	Width	1050,1250,1450,1550,1850,2005*mm
	Length	≤50m/Roll
Roll tube	Inner Diameter	6 inches

Note*: This width is the actual size, the width of the calculated area is 1000,1200,1400,1500,1800,2000 mm

Photoelectric Performance

Classic laminated smart film

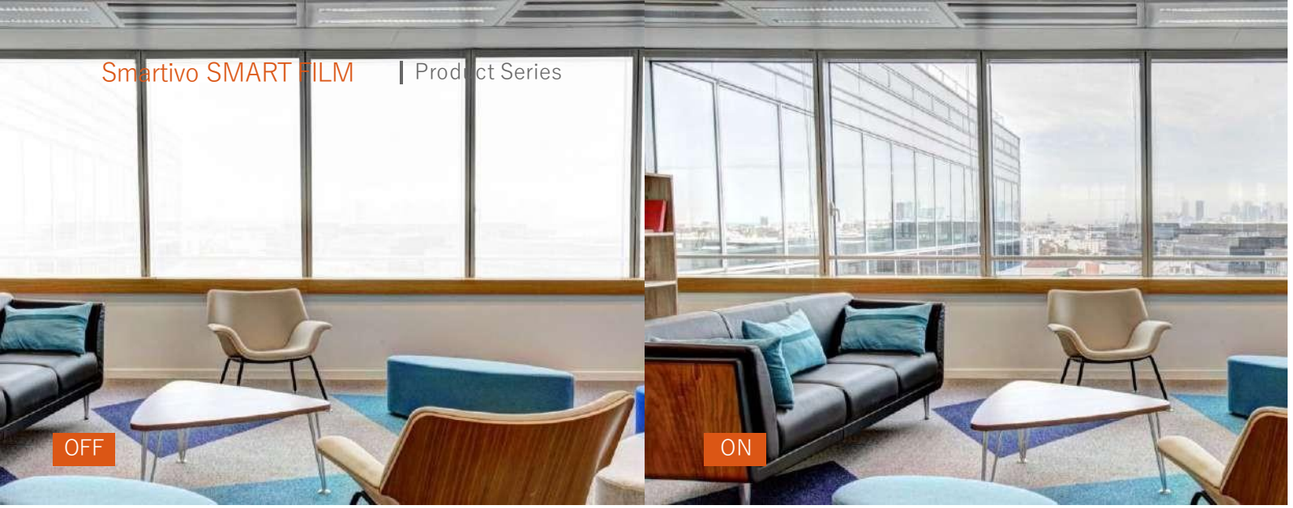
Items	ON/OFF		Test Methods/Standards
Operating voltage	ON	60V	Multimeter/ Voltage Regulator,WGW
Power consumption	ON	≤5W/m²	Multi-parameter electric measuring instrument
Viewing angle	ON	≥160°	Visual Inspection
Uv blocking rate	OFF	≥99%	Optical transmittance tester
Infrared blocking rate	OFF	≥60%	
Response time	OFF→ON	≤30ms	Liquid crystal parameter integrated tester
	ON→OFF	≤200ms	
Operating temperature	--	-30℃ ~85℃	constant temperature and humidity testing machine
Lifetime	--	10 -15 years	GB18910.5-2008
Switching times	--	≥2 million times	Self-made on/off tester

Smart film is driven by AC power, colorless and transparent when power is added, and fogged and translucent when power is removed, and its photoelectric performance is shown in the table above.

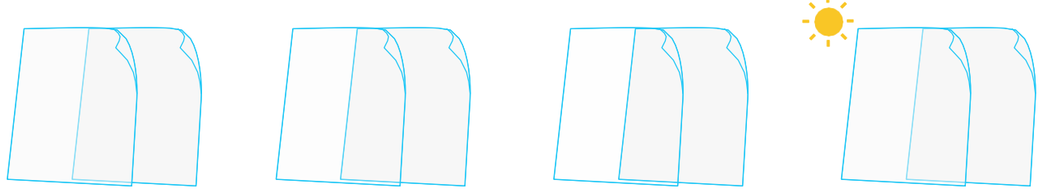
Product Transparency / Haze

Classic laminated smart film

Operating ambient temperature	Transparency	Full light tester				Parallel light tester	
		ON/OFF	Haze	Full light transmittance	b value	45° light	Parallel light
Low temperature	High transparency	OFF	94.5	78.0	5.93	/	/
		ON	4.53	84.0	3.77	58.0	81.0
	Ultra transparency	OFF	94.5	78.0	5.93	/	/
		ON	4.53	88.0	3.77	58.0	86.0
	Ultra high transparency	OFF	94.5	85.0	5.93	/	/
		ON	4.53	91.0	3.77	60.0	88.0
High temperature	High transparency	OFF	94.6	78.0	6.02	/	/
		ON	4.57	84.0	3.94	59.0	81.0
	Ultra transparency	OFF	94.6	78.0	6.02	/	/
		ON	4.57	88.0	3.94	59.0	86.0
	Ultra high transparency	OFF	94.6	85.0	6.02	/	/
		ON	4.57	91.0	3.94	60.0	88.0



Different Transparency And High Temperature Series

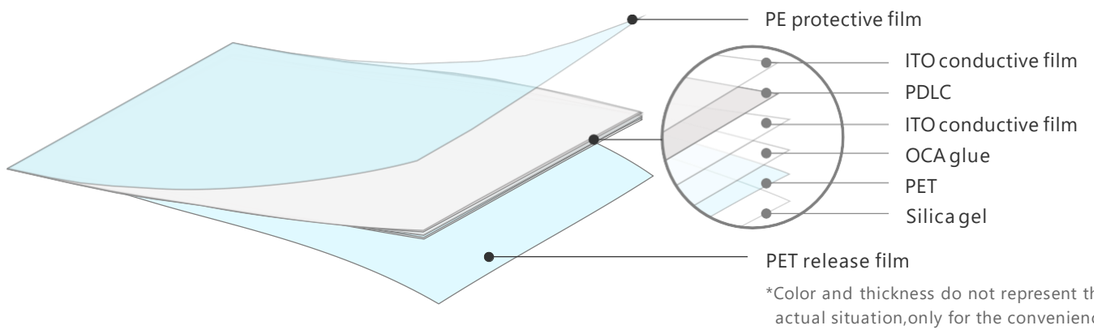


84-85%High transmittance PDLC film

87-88%High transmittance PDLC film

91-92%Extra clear PDLC film

High temperature PDLC film



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Product Parameters

84-85% High transmittance PDLC film

	Self-adhesive	Laminated
Haze（ON）	3%±1	3%±1
Haze（OFF）	95%±1	95%±1
Total light transmittance（ON）	84%-85%	84%-85%
Total light transmittance（OFF）	78%-79%	78%-79%
UV block	≥99%	≥99%
IR block(OFF)	≥60%	≥60%
Power consumption	≤5W/m²	≤5W/m²
Voltage	AC60V	AC60V

Product Parameters

87-88% High transmittance PDLC film

	Self-adhesive	Laminated
Haze（ON）	3.2%±1	3%±1
Haze（OFF）	95%±1	95%±1
Total light transmittance（ON）	87%-88%	87%-88%
Total light transmittance（OFF）	67%-73%	67%-73%
UV block	≥99%	≥99%
IR block(OFF)	≥60%	≥60%
Power consumption	≤5W/m²	≤5W/m²
Voltage	AC60V	AC60V
Operating temperature	-30°C~85°C	-30°C~85°C

Product Parameters

91-92% Extra clear PDLC film

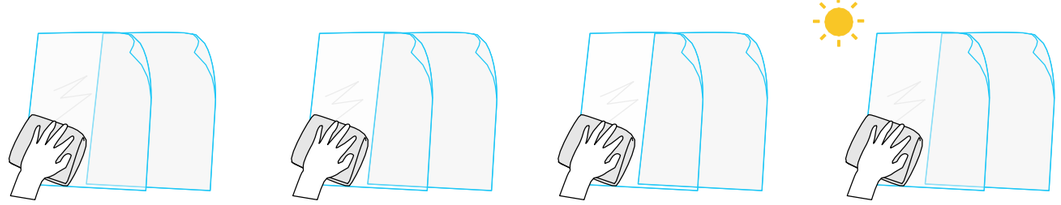
	Self-adhesive	Laminated
Haze（ON）	3%±1	2%±1
Haze（OFF）	95%±1	95%±1
Total light transmittance（ON）	91%-92%	91%-92%
Total light transmittance（OFF）	69%-75%	69%-75%
UV block	≥99%	≥99%
IR block(OFF)	≥60%	≥60%
Power consumption	≤5W/m²	≤5W/m²
Voltage	AC60V	AC60V
Operating temperature	-30°C~85°C	-30°C~85°C

Product Parameters

High temperature PDLC film

	Self-adhesive	Laminated
Haze（ON）	3.2%±1	3%±1
Haze（OFF）	95%±1	95%±1
Total light transmittance（ON）	84%-85%	84%-85%
Total light transmittance（OFF）	60%-71%	60%-71%
UV block	≥99%	≥99%
IR block(OFF)	≥60%	≥60%
Power consumption	≤5W/m²	≤5W/m²
Voltage	AC60V	AC60V
Operating temperature	-30°C~105°C	-30°C~105°C

Self Adhesive Ultratransparency Smart Film With Hard Coating

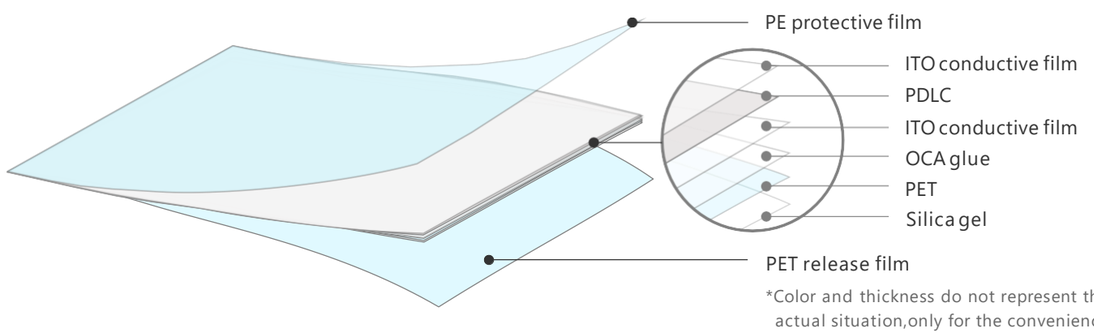


84-85%High transmittance PDLC film with hard coating

87-88%High transmittance PDLC film with hard coating

91-92%Extra clear PDLC film with hard coating

High temperature PDLC film with hard coating



*Color and thickness do not represent the actual situation,only for the convenience of illustration.

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Product Parameters

84-85% High transmittance PDLC film with hard coating

Haze（ON）	3.5%±1
Haze（OFF）	95.6%±1
Total light transmittance（ON）	84%-85%
Total light transmittance（OFF）	78%-79%
UV block	≥99%
IR block(OFF)	≥60%
Power consumption	≤5W/m²
Voltage	AC60V

Product Parameters

87-88% High transmittance PDLC film with hard coating

Haze（ON）	3.5%±1
Haze（OFF）	95.6%±1
Total light transmittance（ON）	87%-88%
Total light transmittance（OFF）	67%-73%
UV block	≥99%
IR block(OFF)	≥60%
Power consumption	≤5W/m²
Voltage	AC60V
Operating temperature	-30°C~85°C

Product Parameters

91-92% Extra clear PDLC film with hard coating

Haze（ON）	3.5%±1
Haze（OFF）	95.6%±1
Total light transmittance（ON）	91%-92%
Total light transmittance（OFF）	69%-75%
UV block	≥99%
IR block(OFF)	≥60%
Power consumption	≤5W/m²
Voltage	AC60V
Operating temperature	-30°C~85°C

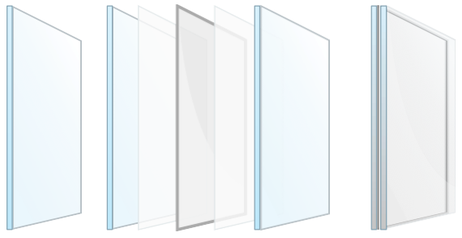
Product Parameters

High temperature PDLC film with hard coating

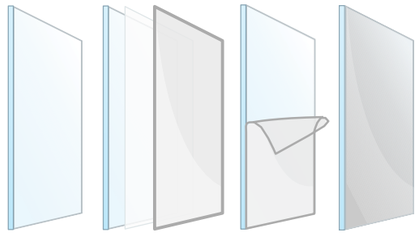
Haze（ON）	3.5%±1
Haze（OFF）	95.6%±1
Total light transmittance（ON）	84%-85%
Total light transmittance（OFF）	60%-71%
UV block	≥99%
IR block(OFF)	≥60%
Power consumption	≤5W/m²
Voltage	AC60V
Operating temperature	-30°C~105°C

Gray Smart Film

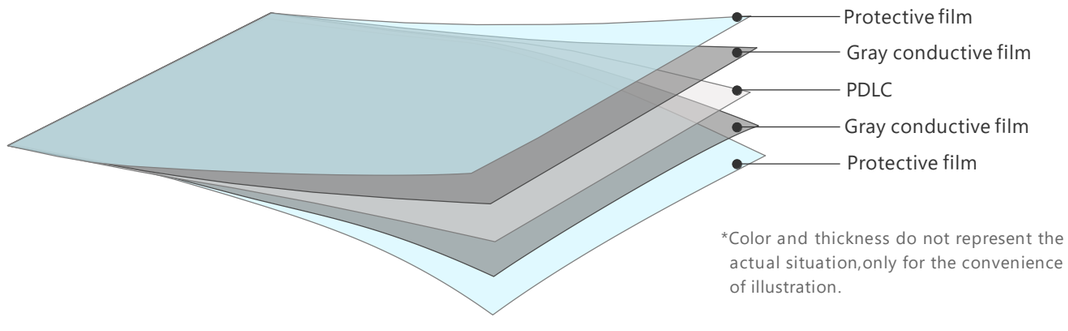
The gray liquid crystal smart film (hereinafter referred to as the smart film) is non-sticky on both sides. It can be closely combined with flat glass through EVA film to make gray smart laminated glass; it can also be pasted with AB glue on one side to make a self-adhesive gray smart film.



Laminated



Self-adhesive



*Color and thickness do not represent the actual situation,only for the convenience of illustration.

Product Size

Gray smart film

Items		
Thickness	Total thickness (without protective film)	0.38mm
	Conductive substrate (single layer)	188μm
	Protective film (single layer)	35μm
Sheet	Width	1200,1500,1800mm
	Length	According to customer requirements
Roll	Width	1250,1550,1850mm
	Length	≤50m/Roll
Roll tube	Inner Diameter	6 inches

Note*: This width is the actual size, the width of the calculated area is 1200,1500,1800 mm

Photoelectric Performance

Gray smart film

Items	ON/OFF		Test Methods/Standards
Operating voltage	ON	60V	Multimeter/ Voltage Regulator,WGW
Power consumption	ON	≤ 5W/m²	Multi-parameter electric measuring instrument
Viewing angle	ON	≥ 160°	Visual Inspection
Uv blocking rate	OFF	≥99%	Optical transmittance tester
Infrared blocking rate	OFF	≥60%	
Response time	OFF→ON	≤30ms	Liquid crystal parameter integrated tester
	ON→OFF	≤200ms	
Operating temperature	--	-30℃ ~85℃	constant temperature and humidity testing machine
Lifetime	--	10 -15 years	GB18910.5-2008
Switching times	--	≥2 million times	Self-made on/off tester

Gray smart filmis driven by AC power, gray and transparent when power is added, and fogged and translucent when power is removed, and its photoelectric performance is shown in the table above.

Product Transparency / Haze

Gray smart film

Operating ambient temperature	Full light tester				Parallel light tester	
	ON/OFF	Haze	Full light transmittance	b value	45° light	Parallel light
Low temperature	OFF	93.0	36.0	0.5	/	/
	ON	4.0	42.0	-0.1	28	40
High temperature	OFF	93.0	36.0	0.5	/	/
	ON	4.0	42.0	-0.1	28	40

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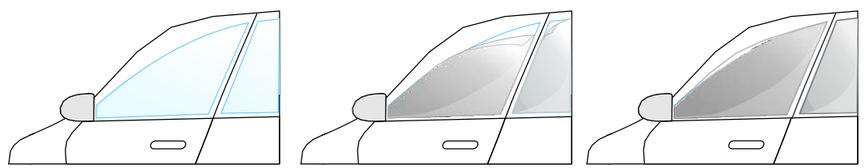
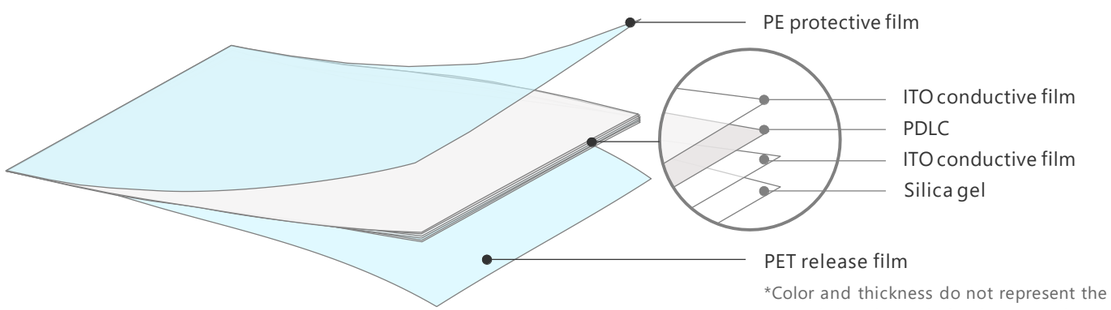
Auto Smart Film

Auto smart film is a smart film product developed by our company on the basis of the first generation of smart film, using special substrates and wide temperature liquid crystal materials, and specially developed for automotive use conditions.





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Product Size

Auto smart film

Items		
Thickness	Total thickness (without protective film)	0.2mm
	PDLC	0.12mm
	Silica gel	0.01mm
	PE protective film	130μm
	PET release film	50μm
Sheet	Width	1200,1500[1]*mm
	Length	According to customer requirements
Roll	Width	1250,1500[2]*mm
	Length	≤50m/Roll
Roll tube	Inner Diameter	6 inches

Note*：This width is the actual size, the width of the calculated area is 1200,1500, mm

Photoelectric Performance

Auto smart film

Items	ON/OFF		Test Methods/Standards
Operating voltage	ON	48V	Multimeter/ Voltage Regulator,WGW
Power consumption	ON	≤5W/m²	Multi-parameter electric measuring instrument
Viewing angle	ON	≥160°	Visual Inspection
Uv blocking rate	OFF	≥99%	Optical transmittance tester
Infrared blocking rate	OFF	≥82%	
Response time	OFF→ON	≤30ms	Liquid crystal parameter integrated tester
	ON→OFF	≤ 200ms	
Operating temperature	--	-30℃ ~ 95℃	constant temperature and humidity testing machine
Lifetime	--	10 -15 years	GB18910.5-2008
Switching times	--	≥2 million times	Self-made on/off tester

Auto smart filmis driven by AC power, gray and transparent when power is added, and fogged and translucent when power is removed, and its photoelectric performance is shown in the table above.

Product Transparency / Haze

Auto smart film

Operating ambient temperature	Transparency	Full light tester				Parallel light tester	
		ON/OFF	Haze	Full light transmittance	b value	45° light	Parallel light
/	/	OFF	94.2	51.19	5.24	/	/
		ON	2.94	56.43	3.2	38.4	55.26

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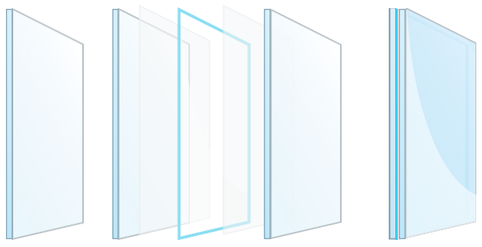
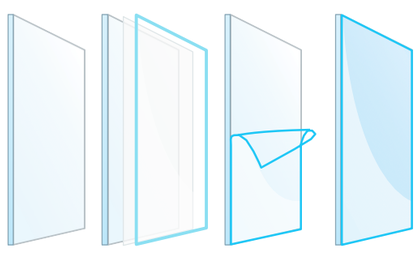
PNLC Smart Film

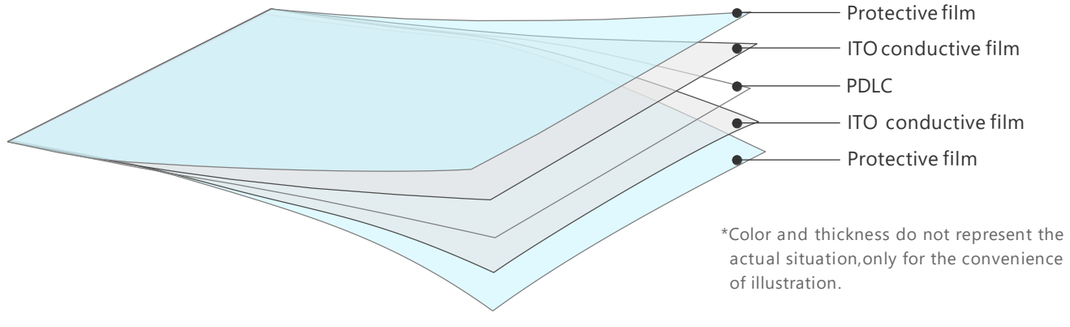
PNLC smart film,also called adverse PDLC film. Different from normal PDLC smart film,the working principle of PNLC film is opaque-power on,clear power off.



Laminated



Self-adhesive



*Color and thickness do not represent the actual situation,only for the convenience of illustration.

Product Size

PNLC Smart Film

Items		
Thickness	Total thickness (without protective film)	0.28mm
	Conductive substrate (single layer)	188μm
	Protective film (single layer)	35μm
Sheet	Width	1200,1400mm
	Length	According to customer requirements
Roll	Width	1200,1400mm
	Length	≤50m/Roll
Roll tube	Inner Diameter	6 inches

Photoelectric Performance

PNLC Smart Film

Items	ON/OFF		Test Methods/Standards
Operating voltage	ON	60V	Multimeter/ Voltage Regulator,WGW
Power consumption	ON	avg 4-6W/m²	Multi-parameter electric measuring instrument
Viewing angle	OFF	160°+1°	Visual Inspection
Uv blocking rate	ON	≥85%	Optical transmittance tester
Infrared blocking rate	ON	≥60%	
Response time	ON	≤200ms	Liquid crystal parameter integrated tester
	OFF	≤220ms	
Operating temperature	--	-20℃ ~85℃	constant temperature and humidity testing machine
Lifetime	--	10 -15 years	GB18910.5-2008
Switching times	--	≥2 million times	Self-made on/off tester

PNLC smart film is driven by AC power, fogged and translucent when power is added, colorless and transparent when power is removed, and its photoelectric performance is shown in the table above.

Product Transparency / Haze

PNLC Smart Film

Product	Operating ambient temperature	Full light tester			Parallel light tester	
		ON/OFF	Haze	Full light transmittance	45° light	Parallel light
PNLC Smart film	/	OFF	7	90	80	85.0
		ON	92	88	/	19.0

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Customized Service

At present, Smartivo has three different styles of color smart film, smart blinds film and UV printing smart film for customization, which can meet the needs of different groups of people in various situations.

Color PDLC Film

In order to meet the demand of different people,there we push the Color PDLC Film.There are black,grey,green,orange,red,blue for option to decorate wherever you want and enhance the privacy at the same time.

Blind PDLC Film

professionals with new shading solutions that were never possible before,which enables us to embed liquid crystal films in various shapes into thin glass windows and create in-window blinds that can be controlled to achieve different levels of transparency, opening animation and support for unconventional window shapes.

Custom-design PDLC Film

Smartivo UV Printing Film use UV printing technology to print any patterns you want.Compared with normal smartfilm,it brings unique visual experience which both provide privacy and decorative nature.

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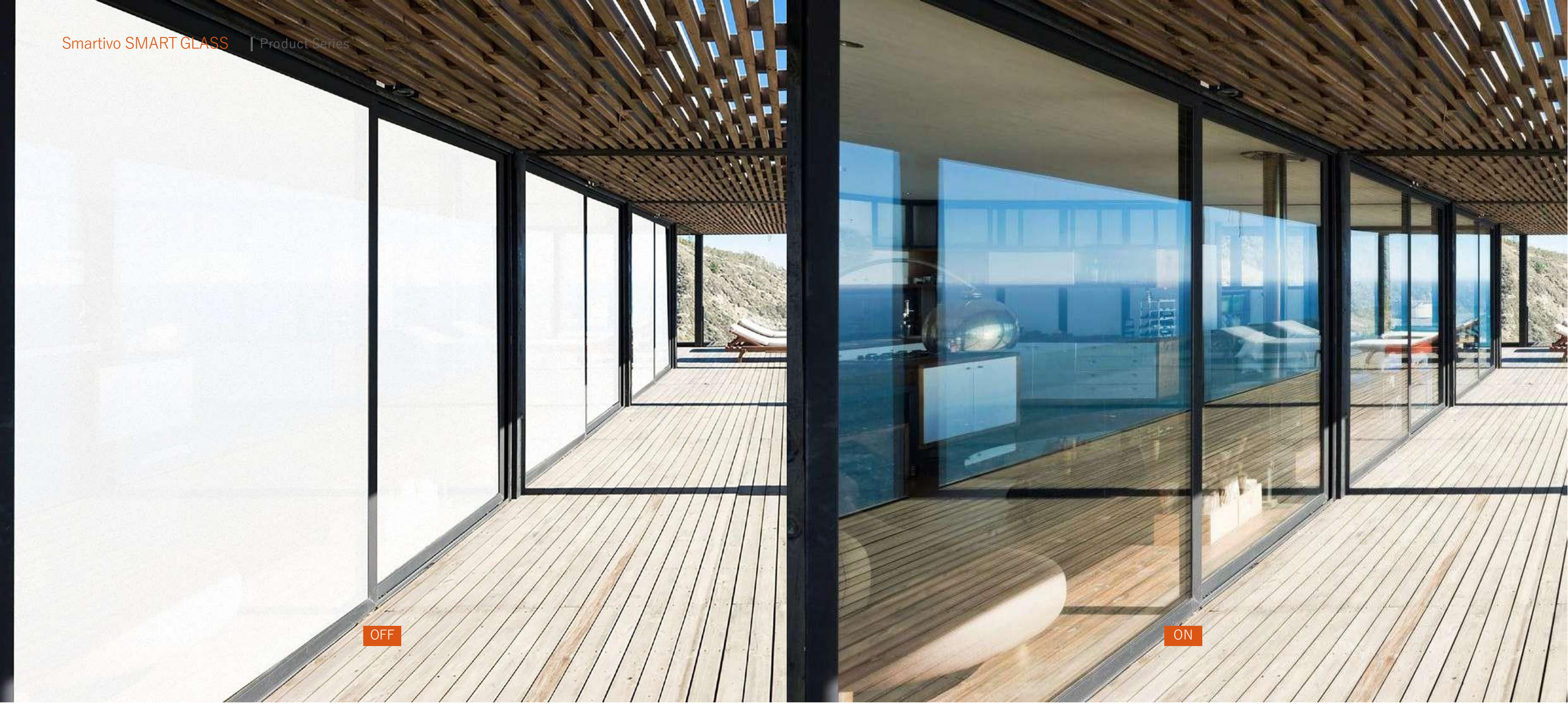


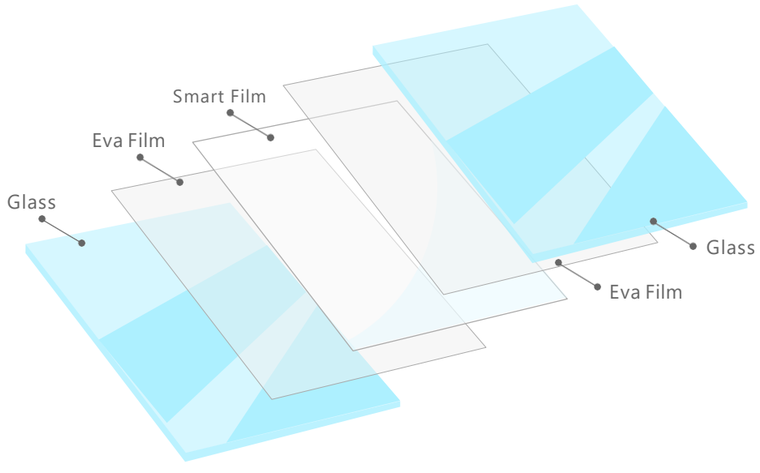
02

Smart Glass Product Series

Widely used in offices, hotels, banks, hospitals, shops, clubs, villas and other places.

Smart Glass

Smart glass is a new type of glass with a sandwich structure that combines PDLC film between two layers of glass and is integrally formed after high temperature and high pressure bonding. Through the controller, it can instantly switch between opaque and transparent.



Product Parameters

Smart Glass

Film color	White	Gray
Haze（on）	4%±1	4%±1
Haze（off）	96%±1	91%±1
Light transmittance（on）	84-85%、87-89%、91-92%	33-35%
Light transmittance（off）	77-78%	1-2%
Uv block	>99%	>99%
Ir block	>86%	>70%
Power consumption	5w/m²	5w/m²
Imput voltage	60v 50hz	60v 50hz
Compatible with	Eva	Eva
Glass types	Flat or Curved,Annealed,Tempered,Clear,Low Iron/Ultra Clear,Other	
Thickness	4+4mm、5+5mm、6+6mm、8+8mm、10+10mm、12+12mm	
Biggest size	1800x3600mm	1800x3600mm

03

LED Glass Product Series

Widely used in glass curtain wall, brand chain store, commercial center, exhibition display, window, space decoration and other places.

About LED Glass

Smartivo LED Glass is made into a unit module using the Become -In technology, and through the splicing module can form any size LED display, displaying text, image, video and other images.

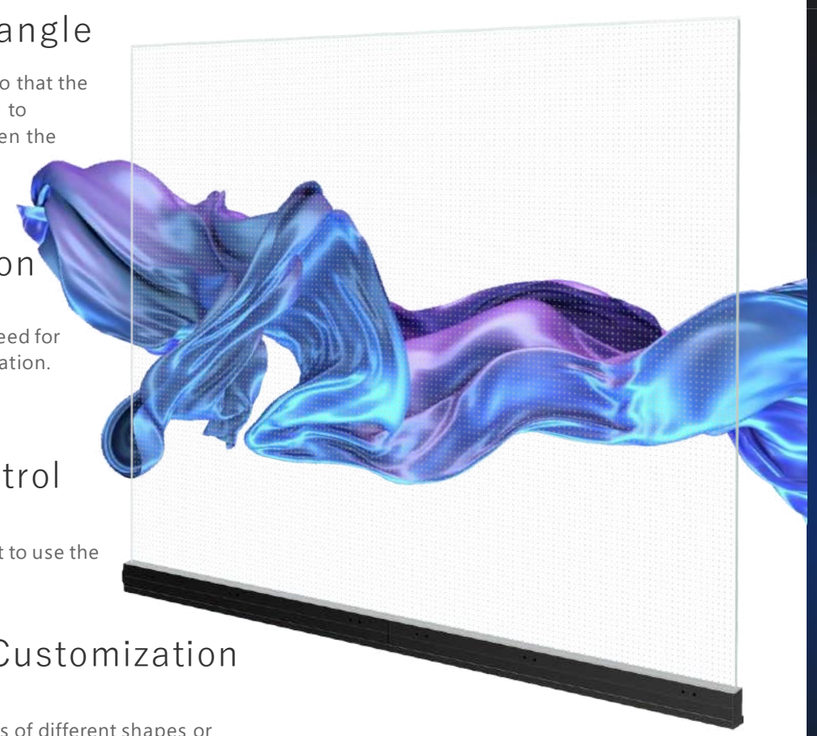
The screen size, grayscale, color can be adjusted, with multiple expansion of high-tech display products, while having the characteristics of permeability, fashion, beauty, thin and light.

High transparency

Highly transparent HD, without changing the permeability and light of the original location, without affect the image of the building and indoor and outdoor appearance, integrating into the city and life.

Wide viewing angle

160° wide angle display glass screen, so that the product multi-perspective presentation to customers, easy to promote and deepen the impression.



Easy installation

Thin thickness, light total volume, no need for box, allowing for fast integrated installation.

Intelligent control

It can be portable and more convenient to use the cell phone APP remote control.

Personalized Customization

Customized electro-optic glass products of different shapes or curvatures are available for demand. Meet various sizes and shapes of molding applications.

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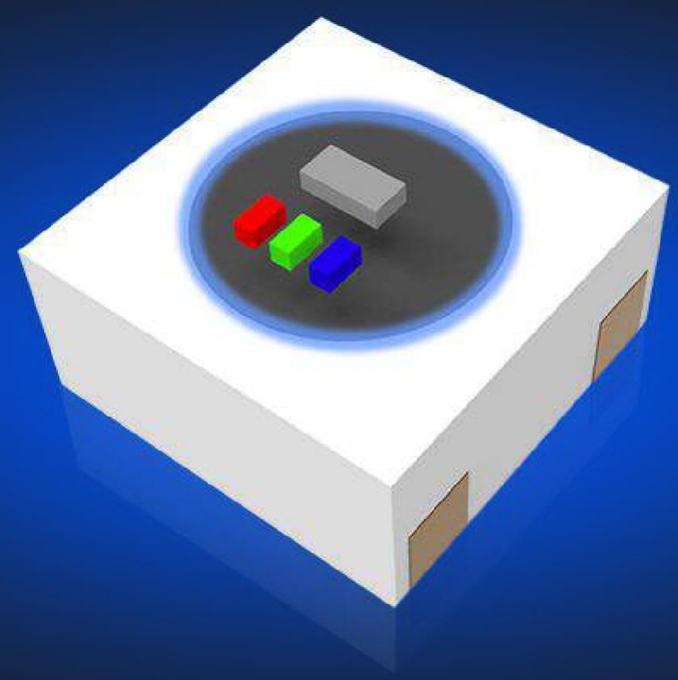
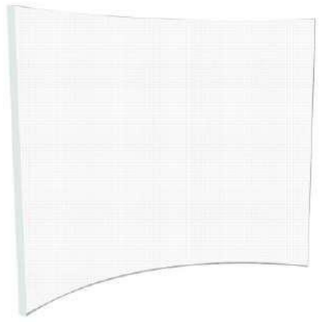
Core Advantages

Become -In LED lamp bead light-emitting technology lamp beads and chips into one, for better picture rendering fine industrial design, more stable structure high transparency and high brightness, fine and realistic color.



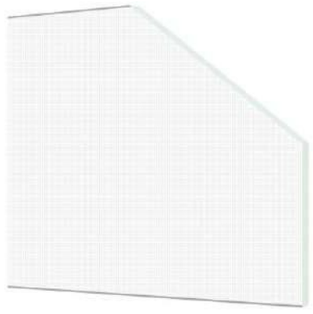
LED Glass transparent display

Using FPCB flexible circuit board, hollow out at least 80% of the area, retain 20% of the area to install LED, and then splicing flexible circuit board to achieve a large area of the light board size, in the large area of the glass laminated light board, made out of the size and thickness can be customized.



Adapting to the arc

Can be cut, bent, and adapted to various sizes and curvatures



Modular design

Easy to install, infinitely scalable

Product Parameters

LED Glass transparent display

Brilliant	P5*10	P10	P10*20	P20
Model	TLD-P0510	TLD-P1010	TLD-P1020	TLD-P2020
Screen brightness (nits)	0~5000	0~5000	0~2500	0~2500
Transparency	70%	70%	88%	88%
Pixel pitch(mm)	5.5×11	11×11	10×20	20×20
Module (mm)	111×500	111×500	200×500	200×500
Pixel density	16200	8100	5000	2500
Best view distance	≥7.5m	≥11m	≥15m	≥20m
Average square power	230W	230W	230W	110W
Maximum square power	650W	650W	650W	330W
Pixel specification	1R1G1B	1R1G1B	1R1G1B	1R1G1B
Pixel package	SMD2020	SMD2020	SMD2020	SMD2020
Grayscale level	65536	65536	65536	65536
Refresh rate	≥3840	≥3840	≥3840	≥3840
Viewing angle	≥160°	≥160°	≥160°	≥160°
Control system	NOVA	NOVA	NOVA	NOVA
Operating voltage	+5VDC	+5VDC	+5VDC	+5VDC
Screen material	Tempered Glass	Tempered Glass	Tempered Glass	Tempered Glass
Working temperature	-20°C~55°C	-20°C~55°C	-20°C~55°C	-20°C~55°C
Storage temperature	-40°C~80°C	-40°C~80°C	-40°C~80°C	-40°C~80°C
Working humidity	10-90%	10-90%	10-90%	10-90%
Storage humidity	5-95%	5-95%	5-95%	5-95%
Brightness adjustment	65536 levels*32 times brightness gain			

*Note: The Specifications are for reference, actual values may vary.
The Weight about 30kg/square（12mm thickness LED GLASS）
It is normal for the defective rate of lamp beads to be less than or equal to 1/10000

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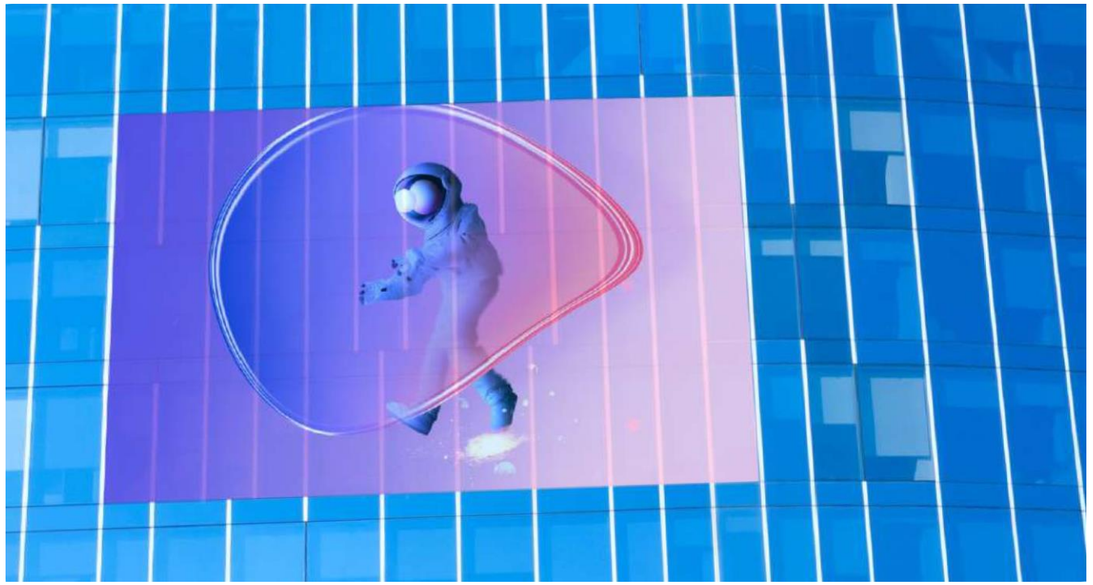
More realistic 3D effects

Smartivo Brilliant 3D led Glass For architectural wall advertising large screen, present more realistic 3D effect.Full spectrum luminous technology and air duct cooling technology, brightness up to 10000nits,ensures higher definition and transparency during daytime.



More innovative advertising, higher business value

High rise building in large cities have become ideal candidates for Micro-LED Transparent Glass. Essentially, the building becomes a three-dimensional photoelectric advertisement carrier.

Preferred window LED glass display for high-end commercial stores

High-end technology display glass will enhance the style of your store.
Suitable for auto 4S stores, luxury jewelry stores, hotels and other places.

New landmark, infinite possibilities

LED Glass can be turned into an interactive video canvas, with transparency.
Our architectural grade glass and embedded LED technologies are bridging the gap between physical and digital experiences.

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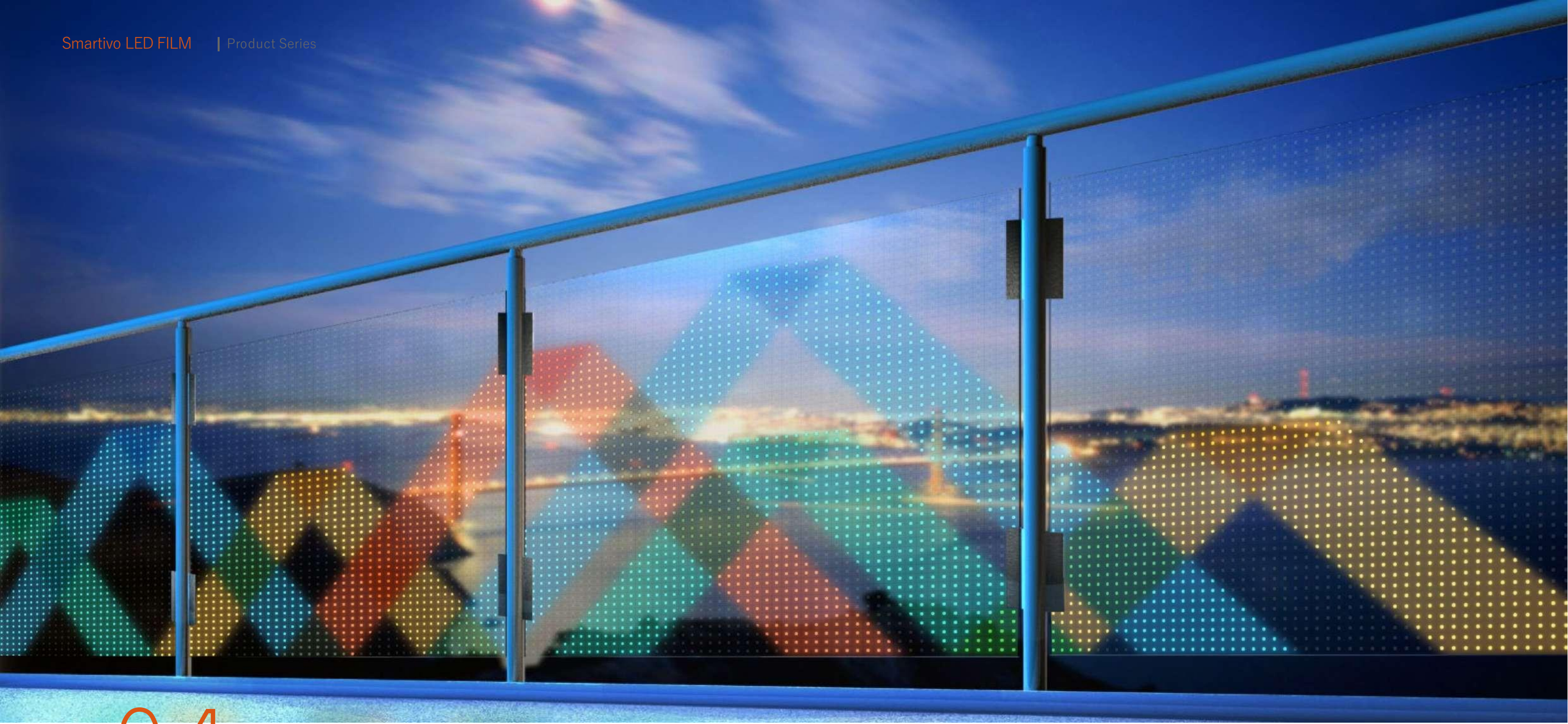


04

LED film

Widely used in glass curtain wall, window display, advertising media, space decoration, partition decoration, home design, landscape lighting, commercial display, functional signage, etc.

About LED Film

LED transparent film is also called photoelectric film. This technology is a light and transparent display film made of RGB-LED, which are surface-attached to the film substrate and then packaged by film pressure. The LED film produced by this technology has Film thickness <2mm.

LED film has a number of advantages such as cuttable and splicable, multiple customized models, flat front and back, high transparency, good durability and easy maintenance.

Adjustable high brightness

With different pixel density, conventional 3000cd/㎡ ,Highlight 5000cd/㎡;customized>7000cd/㎡

Ultra thin

The LED are hidden, and the conventional front and rear flat films are <2.5mm.Ultra-thin customized front and rear flat film <1.5mm

High transparency

About 50-90% physical transparency with different point spacing,and a reasonable viewing distance of 99% visual transparency.

Crop stitching

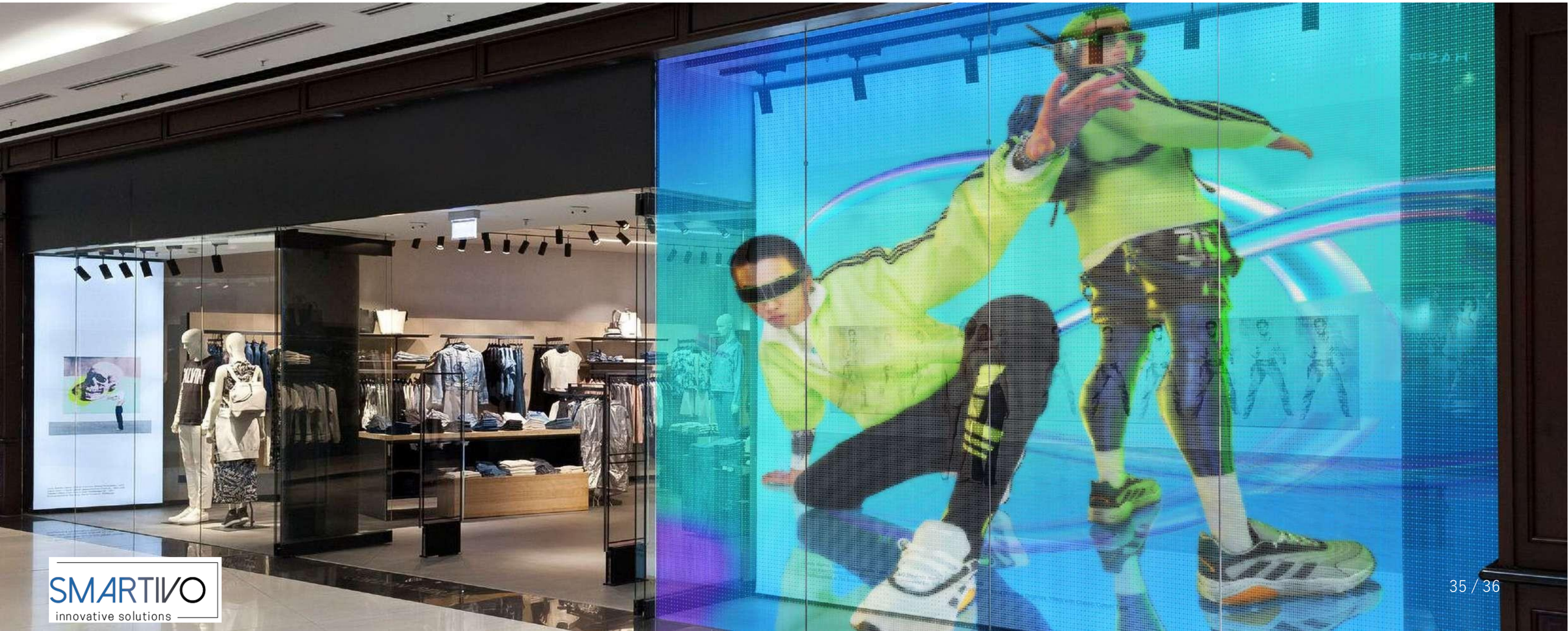
The signal is transmitted in a straight line to ensure that the screen can be cut and spliced.

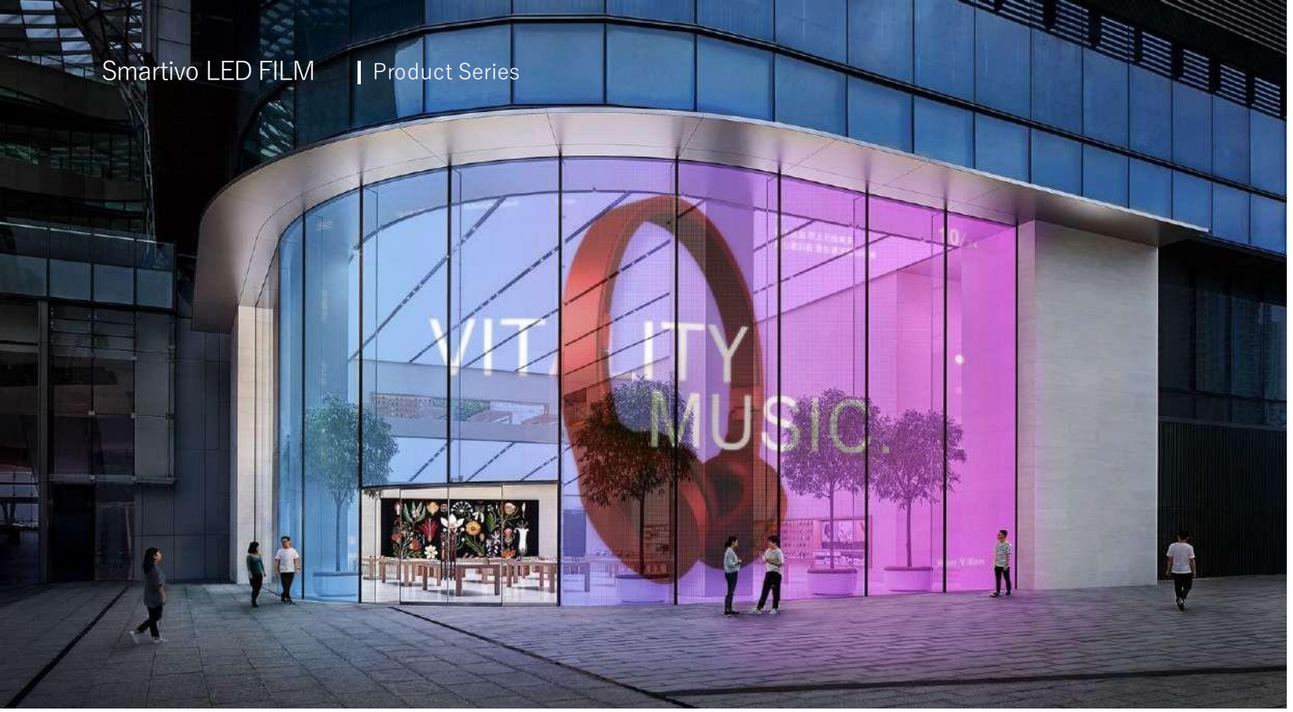
Easy to install

Lightly paste the film on the glass, separate the controller and install it.
Plug connection and installation is complete

Non-destructive repair

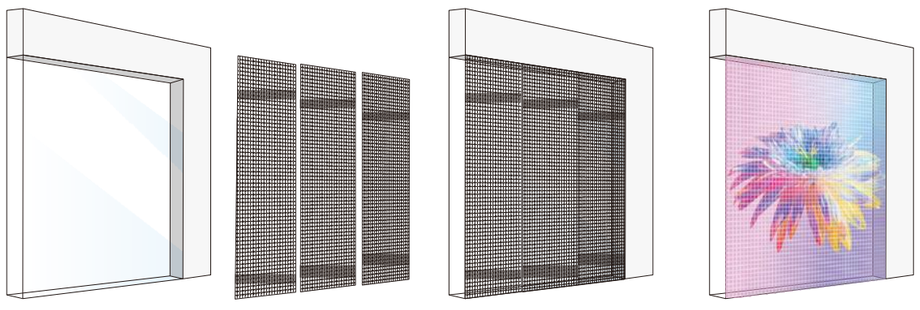
The surface protective film can be replaced at any time to ensure that the screen is brand new at any time, and the bad film that cannot be repaired on site can be directly replaced with a new film.





LED Film

LED transparent film is self-adhesive, so it can be easily affixed to existing railing glass, window surfaces, and architectural curtain walls without any complicated additional steel structure, and will not affect the original structure of the building.



Standard LED Film Parameters

Model	P4	P8	P10	P20
Pixel pitch (mm)	4*4 ±0.4	8*8 ±0.8	10*10 ±1	20*20 ±2
Pixel density (approx.)	62500	15625	10000	2500
Screen brightness	0-5000	0-5000	0-5000	0-2500
Operating voltage	+5VDC	+5VDC	+5VDC	+5VDC
Average squared power	230W	230W	230W	110W
Maximum square power	650W	650W	650W	330W
Optimal viewing distance	≥4M	≥8M	≥10M	≥20M

Customized LED Film Parameters

Model	P5	P6	P12	P15
Pixel pitch (mm)	5*5 ±0.5	6*6 ±0.6	12*12 ±1	15*15 ±1
Pixel density (approx.)	40000	27556	6889	4356
Screen brightness	0-5000	0-5000	0-5000	0-4000
Operating voltage	+5VDC	+5VDC	+5VDC	+5VDC
Average squared power	230W	230W	230W	180W
Maximum square power	650W	650W	650W	520W
Optimal viewing distance	≥5M	≥6M	≥12M	≥15M

Model	P24	P30	P40
Pixel pitch (mm)	24*24 ±2	30*30 ±3	40*40 ±4
Pixel density (approx.)	1681	1089	625
Screen brightness	0-1500	0-1000	0-800
Operating voltage	+5VDC	+5VDC	+5VDC
Average squared power	70W	50W	40W
Maximum square power	200W	130W	110W
Optimal viewing distance	≥24M	≥30M	≥40M

* For unlisted led film models and special requirements, please consult Smartivo staff.

Film Technical Properties

Pixel size	1R1G1B
Pixel packing	1515 / 2020
Module width(mm)	240 / 250 / 333
Module height(mm)	1000 / 1500 / N
Color uniformity	±0.003
Gray scale	65536 levels
Bright adjustment	32-bit current gain
Drive mode	static state
Refresh rate	3840

Product performance

Viewing angle	≥160
Optimal viewing distance	≥4M
Screen material	Flexible substrate + organic resin
Operating temperature	-20~50℃
Storage temperature	-40~70℃
Working humidity	10-90%
Storage humidity	5-95%
Control method	mobile phone/computer
Support video	Internal storage/U disk/synchronization

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05

UTD^{AR}

Widely used in exhibitions, museums, supermarkets, science and technology museums, stage beauty, city lighting, cultural tourism night tours, etc.

About UTD[AR]

Smartivo UTD[AR] (ultrathin transparency display) is based on the principle of projector reflection imaging, and the surface of the film is coated with a nano-scale photosensitive coating through a vacuum magnetron sputtering coating process, so that the film maintains a high transmittance and also has a high reflectivity (mirror appearance), 170-degree phantom imaging, composite phantom imaging and stereoscopic suspended phantom imaging.

A brand-new projection medium is displayed in important event scenes, which is more transparent than traditional screens, and can make the image suspended in the air to produce a hazy and magical visual effect.

The double sides projection film remains transparent while ensuring that the picture is still bright and the colors are vivid and saturated. The audience can see any object on the back through the holographic invisible screen, and can also use the light transmission secondary imaging, which is more transparent than the traditional projection screen, and can make the image suspended in the air.

Transparent HD

It has the unique characteristics of full transparency and high definition, which can be placed in the best advertising position. The visual effect of full transparency, high definition and 3D future technology can quickly improve the publicity effect.

Ultra-thin profile

Simple and ultra-thin, resistant to strong light and anti-aging. The appearance is beautiful and generous, fully reflecting the fashion and avant-garde atmosphere.

High performance and low cost

The existing 3D transparent and AR display technologies on the market all require high costs, while Smartivo double sides projection film is a perfect combination of high performance and low cost.

Commercial value

It can be widely used in major industries, corporate exhibition halls, retail stores, exhibition halls, cultural tourism night tours and other scenarios. Through the high technology of double sides projection film, it quickly attracts customers and generates a larger market.

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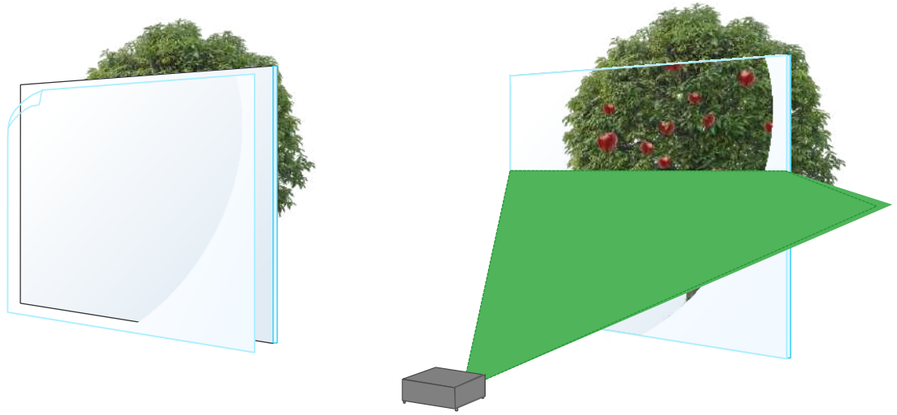
UTD^{AR}

Smartivo Ultrathin transparency display is a new projection medium,
which is more transparent than traditional screens.
The image can be suspended in the air to produce a hazy and magical visual effect;



Product Parameters

	UTD^{AR}
Thickness	0.2mm
Width	1230mm
Haze	<2.0%
Viewing angle	170°
Transmittance	>70%
Operating temperature	-20℃~60℃
Storage temperature	25℃±1℃
Storage humidity	35%-75%
Resolutions	up to 8k

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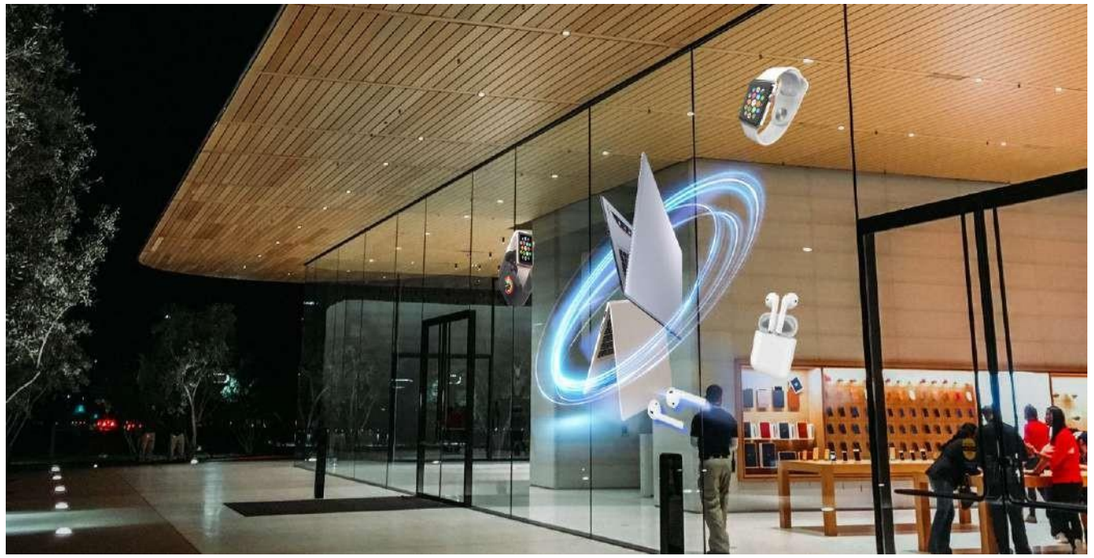


Add high-quality advertising space to create business value

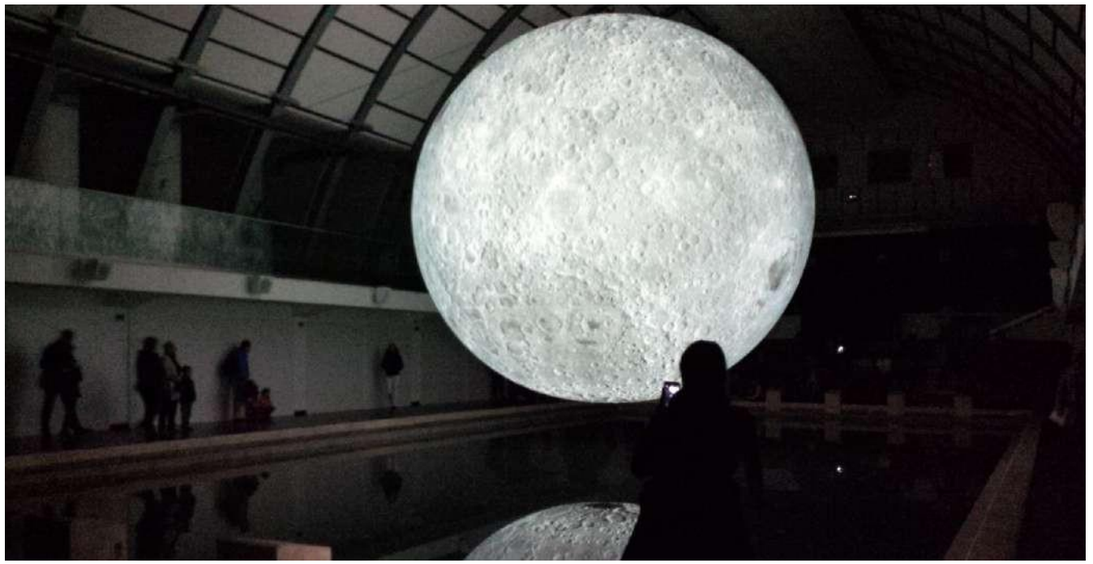
Double sides projection film display technology provides transparent display solutions for corporate exhibition halls, museums/technology exhibition halls, commercial retail stores and other scenarios. The cool technological effects enhance the strength of the exhibition hall, user experience and publicity effects, and bring value-added revenue.

More dazzling stage dance

The photon transparent chip display technology, fully transparent and high-definition, brings a new immersive experience to the audience, which can unleash the imagination of dance beauty producers and give birth to a larger dance beauty night tour market.

Travel through time and let ancient artifacts tell their own stories

It solves the problem that cultural relics and exhibits can only be displayed statically and cannot display dynamic images at the same time.
The new visual experience combined with the earphone explainer brings visitors a full range of audition experience and brings valueadded revenue to the exhibition hall.



Projection 3D effect is more shocking

Presenting various immersive, sci-fi, and futuristic scenes in sci-fi blockbusters in a real environment. Transparent display of light and shadow images, phantom imaging, more realistic and more convenient, to achieve real light field display.

06

DLCF Product Series

Widely used in architectural facade, aerospace glass, automotive sunroofs, and ship windows.

About DLCF

Smartivo DLCF (Dye Liquid Crystal Film) is a new glass material that controls luminous flux. DLCF (Dye Liquid crystal Film) based products allow glass to dim and tint from opaque to transparent for user controlled shading and glare mitigation.

DLCF (Dye Liquid crystal Film) independent R&D with 11 patents and precision manufacturing. Offers best architectural, automotive, and aeronautical responses to requirements for light control,thermal control, and energy conservation.

AI LIGHT CONTROL

Dynamic Shading, Fast Reaction.Manually adjust dlcf transparency for free control of interior light.

DENY ACCESS TO LIGHT

Blocking up to 99% of visible light、UV and IR, saving energy.

INTELLIGENT CONTROL

Equipped with an intelligent control system that includes elecontrol, an APP, remote control, AI integration, and customization.

0.1S FAST SWITCHING

Switches between frosted and transparent states, providing a privacy function.

DISPLAY SCREEN

Pair with a projector to become an ultra-high definition rear projection screen.

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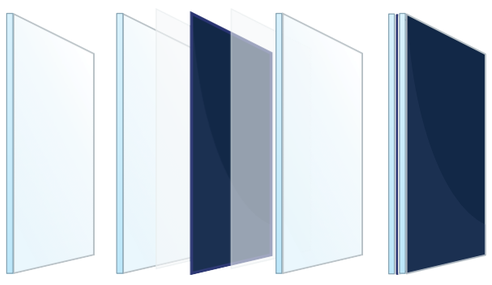
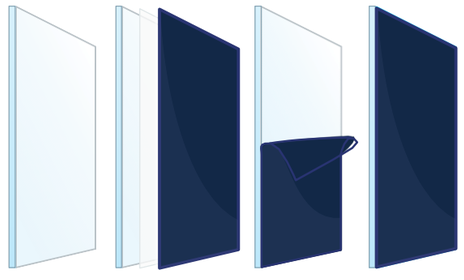
Dye Liquid Crystal Film

DLCF blocks out light and heat, can be adhered onto existing glass or laminated into new glass structures.



Laminated



Self-adhesive

Technical Properties

DLCF

Switching Time		0.1s
Operating Temperature		-20~80℃
Film Thickness		340μ
Maximum Width	Non adhesive	<2200mm
	Adhesive	1840mm
Cut-to-Fit		Custom Sizes,Shapes, Busbar Position;Holes and Notches
Interlayer Compatibility		PVB,EVA,TPU
Glass Types		Annealed,Tempered, Clear, Low Iron/Ultra Clear, IG Units, Other
Patterning Available		Yes
Storage Conditions		-20℃ to+60℃,<60%Humidity

Electrical Performance

DLCF

Operative Controllers	Mini, Flex, Multiplex,Custom
Operating Modes	Fade,ON/OFF,Dimmer
Operating Voltage	36-65VAC
Operating Frequency	22,25,30,50,60Hz
Response Time from dark to light (s)	<1
Response Time from light to dark(s)	<1
Visible Light Transmittance(light)	50~68
Visible Light Transmittance(dark)	1~5
UV Rejection(light)	99
UV Rejection(dark)	99.9
Dimming Uniformity	Overall discoloration
Temperature(℃)	-35~85
Energy Consumption(w/m2)	2

Optical Perfomance

DLCF

Total Transmittance(OFF)		<1%
Total Transmittance(ON)		36%-58%
Haze(ON)		3.5%
Color Grade		l=59
		a=1
		b=-1.5

SMARTIVO innovative solutions

07

Polarized Film Product Series

Widely used in Building doors and windows, skylights,
curtain walls, automobiles, aviation, ferries and other fields.

About Polarized Film

Smartivo Polarized Film is a new material that controls luminous flux and change color. Smartivo Polarized Film look like regular clear Film when indoors but automatically darken when moving into a brighter area.

Ultraviolet (UV) rays from the sun affect the molecules in the Polarized film so they change colour. They will darken in the light even on overcast days as UV rays still penetrate clouds.

AI light control

Dynamic Shading, Fast Reaction.

Deny access to light

Dynamic Shading, Fast Reaction.

Energy saving

It will help save energy by helping to reduce light and heat during the sunniest times of the day.

Easy install

Easy to install, only need to be pasted on the glass surface, no need to connect wires.

Extra large customized size

Available in different widths from 1m to 1.5m, with a height capacity of up to 50m.

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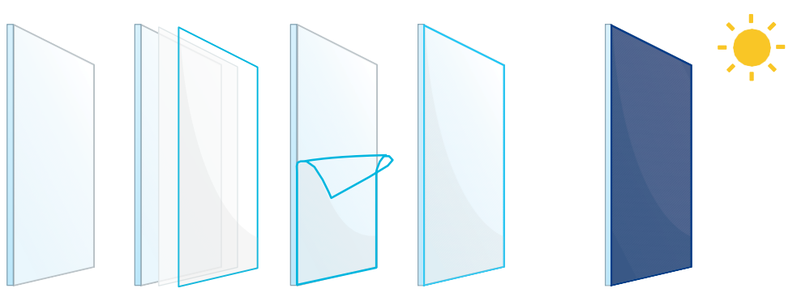
Self-adhesive Polarized Film

Self-adhesive polarized film is covered with adhesive (AB glue) on one side of the film, which is used to fit the target glass.



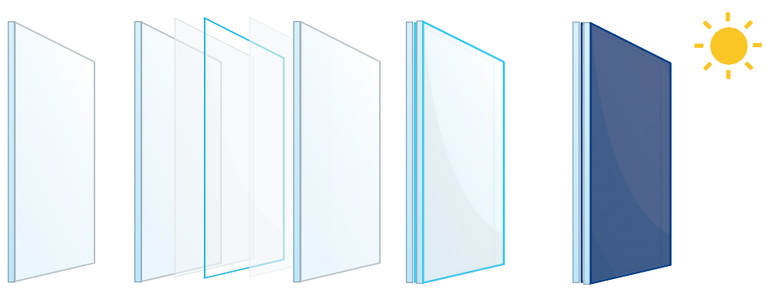
Product Parameters

Self-adhesive Polarized Film

Thickness	/	0.5mm
Visible light transmittance	Transparent state	≥91%
	Discoloration status	≤13%
Haze	Transparent state	≤1%
	Discoloration status	≥1.5%
Viewing angle	Transparent state	≥160°
UV blocking rate	Transparent state	≥81%
	Discoloration status	≥95%
Infrared blocking	Transparent state	≥7.5%
	Discoloration status	≥7%

Laminated Polarized Film

Laminated polarized film is non-sticky on both sides, and can be tightly compounded with flat glass through EVA film to manufacture polarized glass.



Product Parameters

		Laminated Polarized Film
Thickness	/	0.4mm
Visible light transmittance	Transparent state	≥91%
	Discoloration status	≤13%
Haze	Transparent state	≤1%
	Discoloration status	≥1.5%
Viewing angle	Transparent state	≥160°
UV blocking rate	Transparent state	≥81%
	Discoloration status	≥95%
Infrared blocking	Transparent state	≥7.5%
	Discoloration status	≥7%

08

Smart Curtain Product Series

Blue Smart Curtain | White Smart Curtain

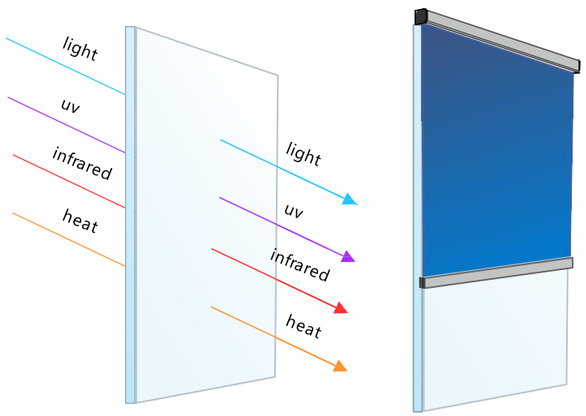
Widely used in offices, hotels, banks, hospitals, shops, clubs, villas and other places.

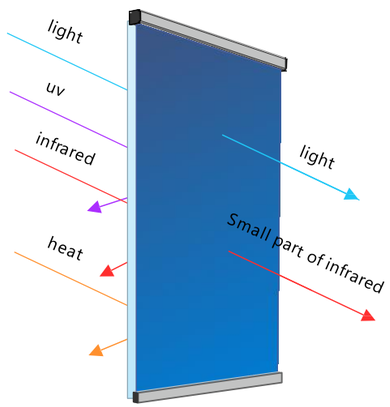
About Smart Curtain

The smart curtain uses a kind of high-tech fabric, which is different from the existing curtain fabric. The flexible film is combined with the technology of high-efficiency light induction, magnetron sputtering, and nano-film inner lamination.

Smart curtain is a higher-end and more technological alternative to traditional curtains. Widely used in: offices, airports, buildings, clubs, schools, sun rooms, government agencies, banks, etc. scenes that require curtain boxes to shade.

Compared with traditional curtains, it has the advantages of high-end atmosphere, beautiful appearance, heat insulation, shading, UV protection, and more transparent vision. It is a smart film curtain product that subverts the industry.





Safe flame retardant

High-efficiency fire-retardant and flame-retardant materials are used, up to the national standard A-level fire-retardant and flame-retardant grade. Effectively protect personal safety and avoid disasters in advance.

Environmental protection

Smart curtains are made of environmentally friendly materials and have a service life of up to 20 years, which can reduce the replacement of ordinary curtains, thereby protecting the environment.

Transparent field of view

The transparency that does not affect the field of vision ensures that the interior is comfortable and not depressing, and one-way perspective ensures the privacy and safety of home office life.

Sunlight &heat insulation

Smart curtains have good heat insulation effect, the infrared blocking rate can reach more than 95%, and the solar gain coefficient is only 0.2.

Dust and dirt resistant

Anti-static treatment of polymer nanomaterials can effectively resist dust in the air, easy to clean, and can be directly wiped with a cleaning cloth.

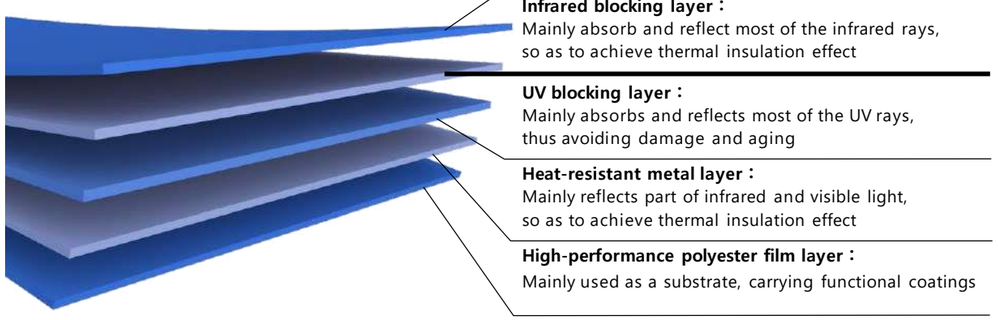
Intelligent adjustment

Smart curtains can intelligently adjust their visible light transmittance according to the intensity of sunlight, which can soften the intensity of incident light and reduce glare.

Blue Smart Curtain

Smart Curtain uses a high-tech fabric that combines efficient light sensing, magnetron sputtering and nano-film internal lamination technology.

Compared with traditional curtains, it has high-end atmosphere, beauty, heat insulation, light blocking and UV protection, which is a smart curtain product that overturns the industry.



Product size

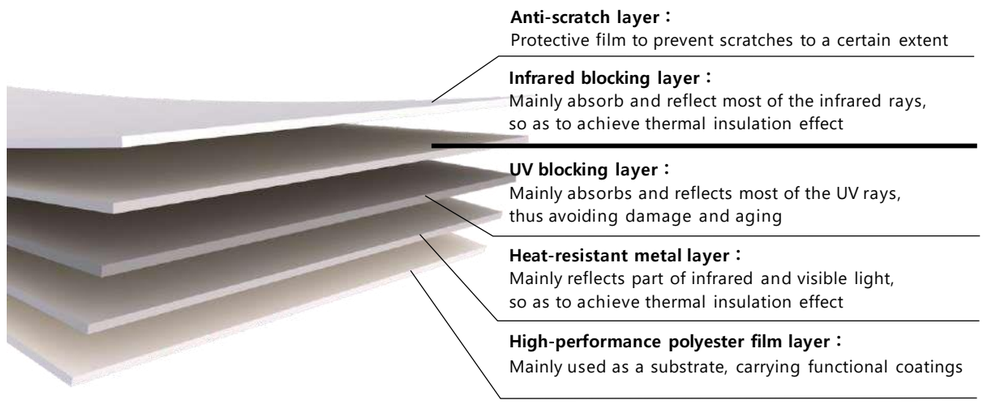
Blue Smart Curtain

Technical parameters				
The film parameters	Thickness	0.1mm	0.08mm	0.1mm
	Width	Width depending on actual conditions		
	Transmittance	9%	20%	3%
	Infrared blocking rate	92%	82%	95%
	UV blocking rate		99%	
	Flammability rating	B Level	B Level	B Level
	Warranty		5 years	
	Service life		20 years	
	Certification		CE、FCC、RoHS	
Motor parameters	Input voltage		DC5V	
	Power		5W	
	Current		0.75A	
	Rotating speed		30r/min	
	Torque		0.3N·m	
	Warranty		5years	
	Service life		8years	
	Certification		CE、FCC、RoHS	
Solar Panel Parameters	Size		L210×W65×T4mm	
	Open circuit voltage		13.5V	
	Operating Voltage		12V	
	Short circuit current		145mA	
	Working current		130mA	
	Conversion efficiency		19.5%	
	Warranty		3years	
	Service life		20years	
	Certification		CE、FCC、RoHS	
Accessories	Remote control		2 years warranty	
	Power Adapter		2 years warranty	
	Certification		CE、FCC、RoHS	

White Smart Curtain

The smart curtain uses a high-tech fabric that combines efficient light sensing, magnetron sputtering and nano-film internal lamination technology.

Compared with traditional curtains, it has a high-end atmosphere, beautiful, heat insulation, blackout, UV protection, white smart curtains, more transparent visual



Product size

White Smart Curtain

Technical parameters				
	Thickness	0.1mm	0.08mm	0.1mm
	Width	Width depending on actual conditions		
	Transmittance	9%	20%	3%
	Infrared blocking rate	92%	82%	95%
The film parameters	UV blocking rate		99%	
	Flammability rating	B Level	B Level	B Level
	Warranty		5 years	
	Service life		20 years	
	Certification		CE、FCC、RoHS	
	Input voltage		DC5V	
	Power		5W	
	Current		0.75A	
Motor parameters	Rotating speed		30r/min	
	Torque		0.3N·m	
	Warranty		5years	
	Service life		8years	
	Certification		CE、FCC、RoHS	
Solar Panel Parameters	Size		L210×W65×T4mm	
	Open circuit voltage		13.5V	
	Operating Voltage		12V	
	Short circuit current		145mA	
	Working current		130mA	
	Conversion efficiency		19.5%	
	Warranty		3years	
	Service life		20years	
	Certification		CE、FCC、RoHS	
Accessories	Remote control		2 years warranty	
	Power Adapter		2 years warranty	
	Certification		CE、FCC、RoHS	

09

Silent Pod Product Series

Widely used in offices, hotels, banks, hospitals, shops, clubs and other places.

About Silent pod

The flexible and changeable privacy silent pod can satisfy the diversity and creativity of the space. The cabin is composed of aviation aluminum, carbon-plastic composite panels and train glass, and the cabin is constructed with modular sound insulation and shock absorption materials, which can effectively absorb and sound insulation.

Accurate Solidworks software mechanics modeling has invented the reality that only a 90° fastening lock is required for the assembly of the cabin. The built-in low-noise fresh air system quickly renews the cabin air. The 4000K natural light LED central lighting system meets the needs of normal use of light. The blessing of atomized glass enables the cabin glass to be switched between atomized and transparent states at will.

Sound Isolation

Acoustic simulation design accurately predicts and realizes the cabin sound insulation and cabin acoustic environment indicators.

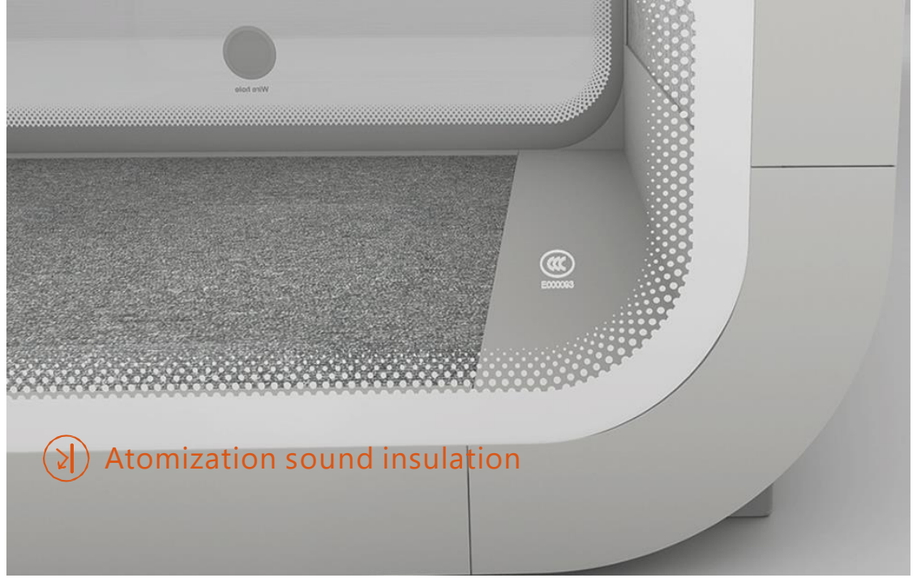
Haptic Radar

Smartivo is equipped with a touch-sensitive radar system to constantly explore the dynamics of the cabin and send execution commands to the electronic control device through scanning data to turn on or off the lighting and ventilation system.

Anti-wear And Environmental Protection

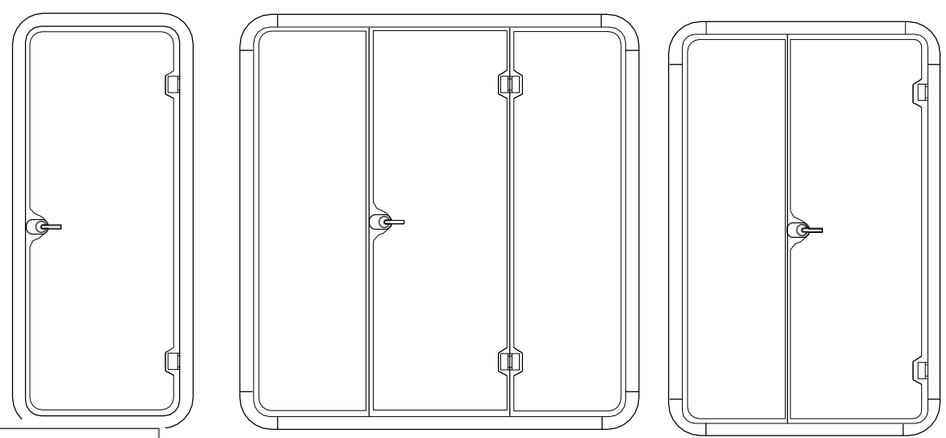
The cabin sound insulation panels are covered with Korean-made nano-PP finishes that are friction-resistant, anti-pollution, anti-ultraviolet, anti-fouling and moisture-proof. The colorful options can be easily integrated into the space.

SMARTIVO
innovative solutions



Privacy Silent pod

The privacy silent pod is composed of aviation aluminum, carbon-plastic composite panels and column glass, which can effectively absorb sound.
The built-in matching furniture can be customized and replaceable according to different usage scenes.
Widely used in business office, live broadcast, instrumental music education, medical care and other places.



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Product Size

Model	Size(mm)	Including facility configuration	Weight(kg)
S-F1、S-F2 (Business/Instrument /Study/live/medical)	packing: W2270×D550×H1080 cabin: W1000×D936×H2300 Inside the cabin: W840×D900×H2140	Matching home furnishing, atomizing film	Net weight :302 Gross weight:258
M-F3、M-F4 (Business/Instrument /Study/live/medical)	packing: W2270×D910×H1080 cabin: W1500×D1236×H2300 nside the cabin: W1340×D1200×H2140	Matching home furnishing, atomizing film	Net weight:448 Gross weight:388
L-F6 (Business/Instrument /Study/live/medical)	packing: W2270×D1060×H1080 cabin: W2200×D1536×H2300 nside the cabin: W2040×D1500×H2140	Matching home furnishing, atomizing film	Net weight:648 Gross weight:583
L-F7 (Business/Instrument /Study/live/medical)	packing: W2270×D1190×H1080 cabin:W2200×D2136×H2300 nside the cabin:W2040×D2100×H2140	Matching home furnishing, atomizing film	Net weight:749 Gross weight:680

(Note: 1. According to the cabin series, the included configuration is different.
2. The weight does not include the matching furniture, electrical appliances and equipment)

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Email: info@smartivo.eu
Tel: +31621121045/
+971 585212332