COMPANY PROFILE

INNOVATIVE DISPLAY SOLUTIONS



The firm H.Q. is located in Riyadh, K.S.A. employing a multinational team of professionals whose expertise covers a multitude of IT fields. **TTT** is an autonomous full service operator, organized to provide professional technology services within the Kingdom, GCC, & Middle East.



TTT is one of the middle east leading high tech. firms specializing in smart glass solutions, flexible LED screens, and provide different types of IT services.





To be the most trusted provider of solutions and technologies that ensure the inspiration and innovation with no limitation.



TOP TEN TECH

To provide the most innovative high tech. solutions that increase your customers' inspiration and provide best services possible.



Our Values

Trustworthy

Transparency

Tolerance





TOP TEN TECH

PRODUCTS & SERVICES



Smart Film Smart Glass LED Glass LED Film UTD DLCF Polarized Film Smart Curtain Silent Pod Flexible LED Screen Transparent LED Screen Screen Screen Screen



MARKET SECTORS





RETAIL

- Banking
- Fashion Stores
- Estate Agents
- Supermarkets
- Beauty Salons
- Car Showrooms
- Shopping Centers



CORPORATE

- Trade Shows
- Offices & Boardrooms
- Banking & Finance
- Telecom



PUBLIC

- Government
- Transport
- Education
- Healthcare
- Museums





- Theatre & Live Events
- Residential
- TV & Broadcast
- Marine
- Automotive



- Restaurants
- Hotels
- Sports Facilities



OFF

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





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).

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.





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.

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.



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.



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



Touch screen and projection

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



Environmental protection

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



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.



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.



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.





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 | ⊴SW/m² | Multi-parameter electric measuring instrument | | |
| Viewing angle | ON | ≥160° | Visual Inspection | | |
| Uv blocking rate | OFF | ≥99% | | | |
| Infrared blocking rate | OFF | ≥8 2% | Optical transmittance tester | | |
| Posponso timo | OFF→ON | ⊴30ms | Liquid crystal parameter | | |
| Response une | ON→OFF | ⊴00ms | integrated tester | | |
| Operating temperature | | -30°C ∼ 95°C | constant temperature and humidity testing machine | | |
| Lifetime | | 10 -15 years | GB18910.5-2008 | | |
| Switching times | | 22million 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 | | Full light tester | | | | Parallel light tester | |
|---------------------|--------------|-------------------|------|-----------------------------|---------|-----------------------|----------------|
| ambient temperature | Transparency | 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 |

Customized Service

At present, Filmbase 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

Filmbase 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.





02

Smart Glass Product Series

Widely used in offices, hotels, banks, hospitals, shops, 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.







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

FILMBASE 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.





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.



More realistic 3D effects

•((((()

FILMBASE 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.



LED film

04

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 surfaceattached 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/m², Highlight 5000cd/m²;customized>7000cd/m²

Crop stitching

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

Ultra thin

High transparency

The LED are hidden, and the conventional front and rear flat About 50-90% physical transparency with different point spacing, and a films are <2.5mm.Ultra-thin customized front and rear flat reasonable viewing distance of 99% visual transparency. film <1.5mm

Easy to install



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.





05 UTD Widely use

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



About UTDAR

Filmbase UTDAR (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 avantgarde atmosphere.

High performance and low cost

The existing 3D transparent and AR display technologies on the market all require high costs, while Filmbase 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.





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.



DLCF Product Series

06

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



About DLCF

Filmbase 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.



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.







Polarized Film Product Series

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

About Polarized Film

Filmbase Polarized Film is a new material that controls luminous flux and change color. Filmbase 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.



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.



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







Smart Curtain Product Series

Blue Smart Curtain | White Smart Curtain

Widely used in offices, hotels, banks, hospitals, shops, 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.

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.



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.

D 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.



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.

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.



Sample Projects

Smart Window Film



AVAILABLE COLORS







Hotel Glass Wall







Office Window







FLEXIBLE & TRANSPARENT LED SCREENS

ARABIA







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