TRANSPARENT DISPLAY SOLUTIONS

Transparent Display Solutions

Turn Glass into a Dynamic Stage

Transparent LED · LED Glass · Transparent OLED · Transparent LCD

Keep the daylight and the view, while playing dynamic ads and brand content.



Transparent LED Display



LED Glass

— ABOUT TCTL

Top Commercial Technology Ltd

TCTL specializes in commercial displays and custom digital signage. From spec advice and quotation to shipping and installation guidance, one contact handles it all.

2009
Founded

17 Years
In Commercial Displays

100+
Successful Projects

- ✓ **Transparent:** LED, LED Glass, OLED, LCD
- ✓ **Commercial:** Signage, video walls, LED, kiosks
- ✓ **Custom:** Shaped and special-size displays
- ✓ **Module layout and resolution** planned to your glass size
- ✓ **Within 1 business day:** spec advice and quotation
- ✓ Provided: **installation guide, video and power layout**







— PRODUCT OVERVIEW

Four Transparent Display Solutions: How to Choose

Item	Transparent LED Display	LED Glass (Floor-Standing)	Transparent OLED Display	Transparent LCD Display
Format	2.0 mm film on existing glass	Tempered glass on mobile base	Self-emissive panel on tempered glass	Panel bonded to cover glass, needs backlit enclosure
Transparency	**90–95%**	**85–90% (visual)**	**38%**	**Depends on backlight**
Brightness	2,000 / 4,000 nits	1,500–2,000 nits	Self-emissive	Depends on backlight
Resolution	**P5–P20 pitch**	**P3.9 / P4.63 pitch**	**HD to 4K UHD**	**FHD 1920 × 1080**
Size	To glass size	1000 × 2000 mm per unit	30" / 55" / 77"	27" / 32" (others on request)
Viewing	**Mid to long distance**	**Close viewing**	**Close viewing**	**Close viewing**

Turn existing glass into a display

→ Transparent LED Display

Freestanding in stores or exhibitions

→ Floor-Standing LED Glass

Close viewing, premium image

→ Transparent OLED / LCD

01

Transparent LED Display

Fast installation with no steel frame. Turn existing glass into a dynamic display wall.

— TRANSPARENT LED DISPLAY

A Transparent LED Display That Sticks to Your Glass

Only 2.0 mm thick and 1.3 kg/m². The self-adhesive film bonds directly to the glass, with no steel frame or drilling. Viewers still see the space and products behind the glass while content plays.

4,000
nits Peak Brightness

95%
Max Transparency

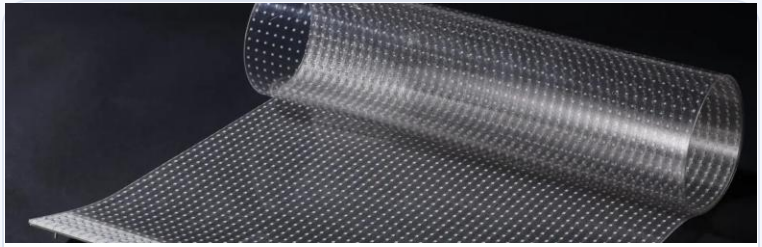
2.0 mm
Total Thickness

P5–P20
Pixel Pitch



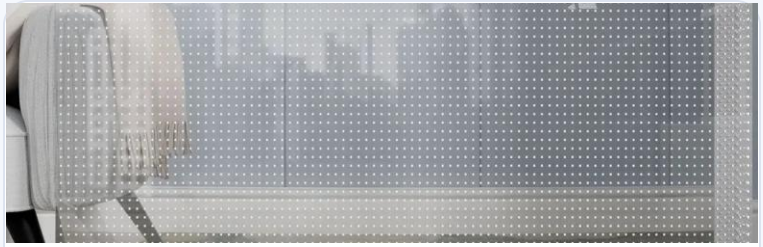
— FEATURES

Why Transparent LED Display



Thin, Flexible Design

2.0 mm thick, **1.3 kg/m²**. Bends to fit curved glass with no added structural load.



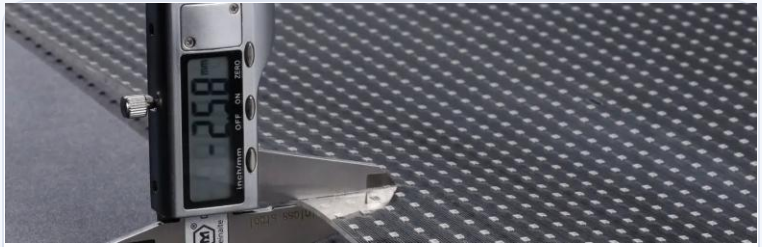
90–95% Transparency

Mini LEDs on a grid-free circuit. P10 transparency **≥ 93%**, so daylight and views are barely affected.



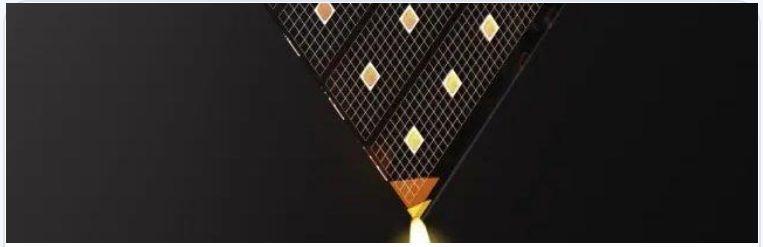
High Brightness, High Contrast

High-brightness version up to **4,000 nits**; 16-bit grayscale and **3,840 Hz** refresh rate, flicker-free on camera.



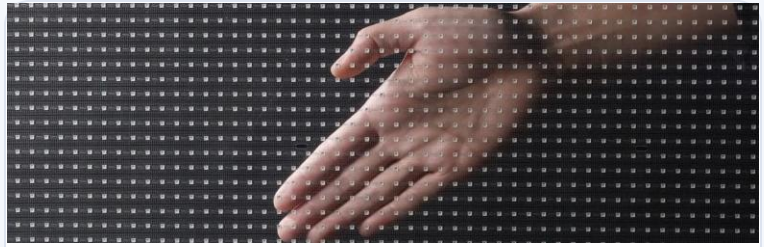
3-Step Install, No Steel Frame

Clean the glass → apply and squeegee → connect power and control. Adhesion gets stronger over time.



Long-Lasting

LED lifespan **≥ 100,000 hours**, UL 94 V-1 flame rating, no yellowing after 5,000-hour UV test.



Fault Bypass

A single LED failure **does not affect the row**. Supported on both 1313 and 2121 LEDs.

— SPECIFICATIONS

Specifications & Model Selection

Model	Module Size (mm)	Transparency	Brightness (nits)	Pixel Density (/m²)	Min. Viewing Distance	Best For
P5	1000 × 320	≥ 90%	2,000	40,000	≥ 5 m	Luxury stores, car showrooms
P6.25	1000 × 400	≥ 90%	2,000 / 4,000	25,600	≥ 6 m	Mall atriums, exhibition halls
P8	1000 × 400	≥ 90%	2,000 / 4,000	15,625	≥ 8 m	Indoor glass walls, airports
P10	1000 × 400	**≥ 93%**	2,000 / 4,000	10,000	≥ 10 m	Building facades, public ads
P15	990 × 390	≥ 94%	2,000	4,356	≥ 15 m	Large building facades
P20	1000 × 400	≥ 95%	2,000	2,500	≥ 20 m	Very large curtain walls, landscape

Common specs: 2.0 mm | 1.3 kg/m² | 16-bit | 3,840 Hz | 160° viewing | Avg. 200 / peak 600 W/m² | −20 to +55°C | Nova / Colorlight

How to choose: Viewers closer than the pitch in meters (e.g. < 5 m for P5) will see LED dots. Module length can be customized.

— COMPETITIVE ADVANTAGE

TCTL vs. Typical Market Products

Small technical details decide long-term reliability.

Specification	TCTL Transparent LED Display	Typical Market Product
Module Width	**400 mm (fewer seams)**	240 mm (more seams)
Film Thickness	**2.0 mm**	3.0 mm
Grayscale	**True 16-bit**	14-bit
Supported LEDs	**1313, 2121**	2121 only
Fault Bypass	**✓ All models**	2121 only
LED Bonding Wire	**Gold wire**	Alloy wire
Flame Rating	**✓ UL 94 V-1**	✗ Not certified
Adhesive	**Gets stronger over time**	Fixed strength or not self-adhesive

— INSTALLATION & SYSTEM

Installation & System Setup

1

Clean the Glass

Remove residue and dirt from the surface and edges. A clean surface is key to long-term adhesion.

2

Apply the Film

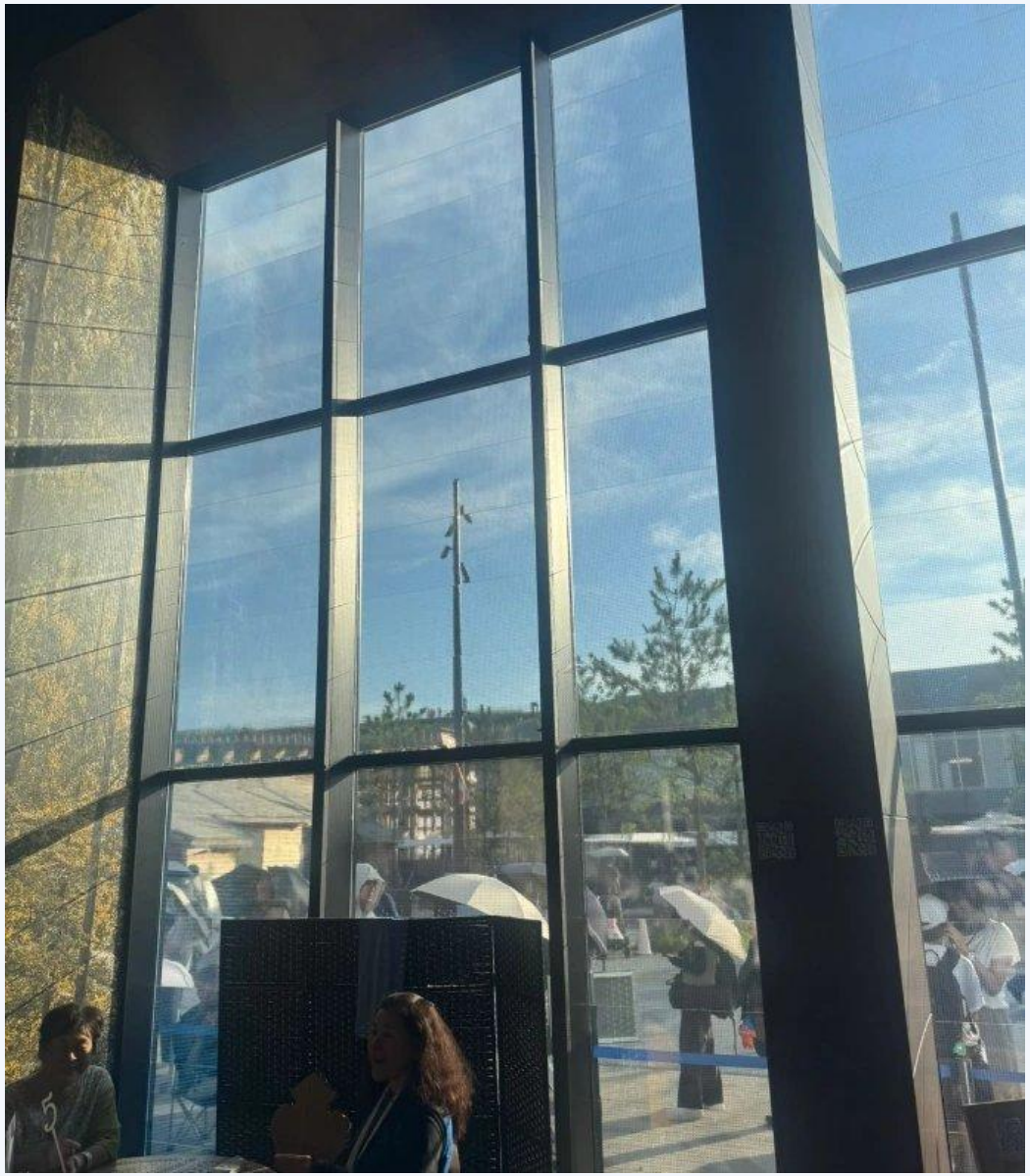
Peel the liner, mist with water and apply the film. Squeegee from the center outward to remove water and bubbles.

3

Connect Power & Control

Mount the power box and connect the controller to start playing. Fully cured in 8–24 hours.

- ✓ Each module: **one power supply** + **one Nova card**
- ✓ Controller sized to your project, **plays offline standalone**
- ✓ Playback software: **no license fee**
- ✓ Portrait, landscape and split layouts supported
- ✓ Provided: **installation guide, video and power layout**
- ✓ Removable film, **no damage to the glass**



— CASE STUDY

Expo 2025 Osaka
Romania Pavilion Glass Facade

On a very tight Expo schedule, the film was bonded directly to the glass with no steel frame or drilling, keeping the building transparent while adding dynamic content.

Product	P10 Transparent LED Display
Display Size	5,300 × 6,300 mm (approx. 33 m²)
Brightness	**4,000 nits**
Installation Time	**4–5 working days**

02

Floor-Standing LED Glass

Tempered glass on a mobile base. No installation needed, and multiple units join seamlessly side by side.

— FLOOR-STANDING LED GLASS

A Transparent Display That Plays Wherever You Place It

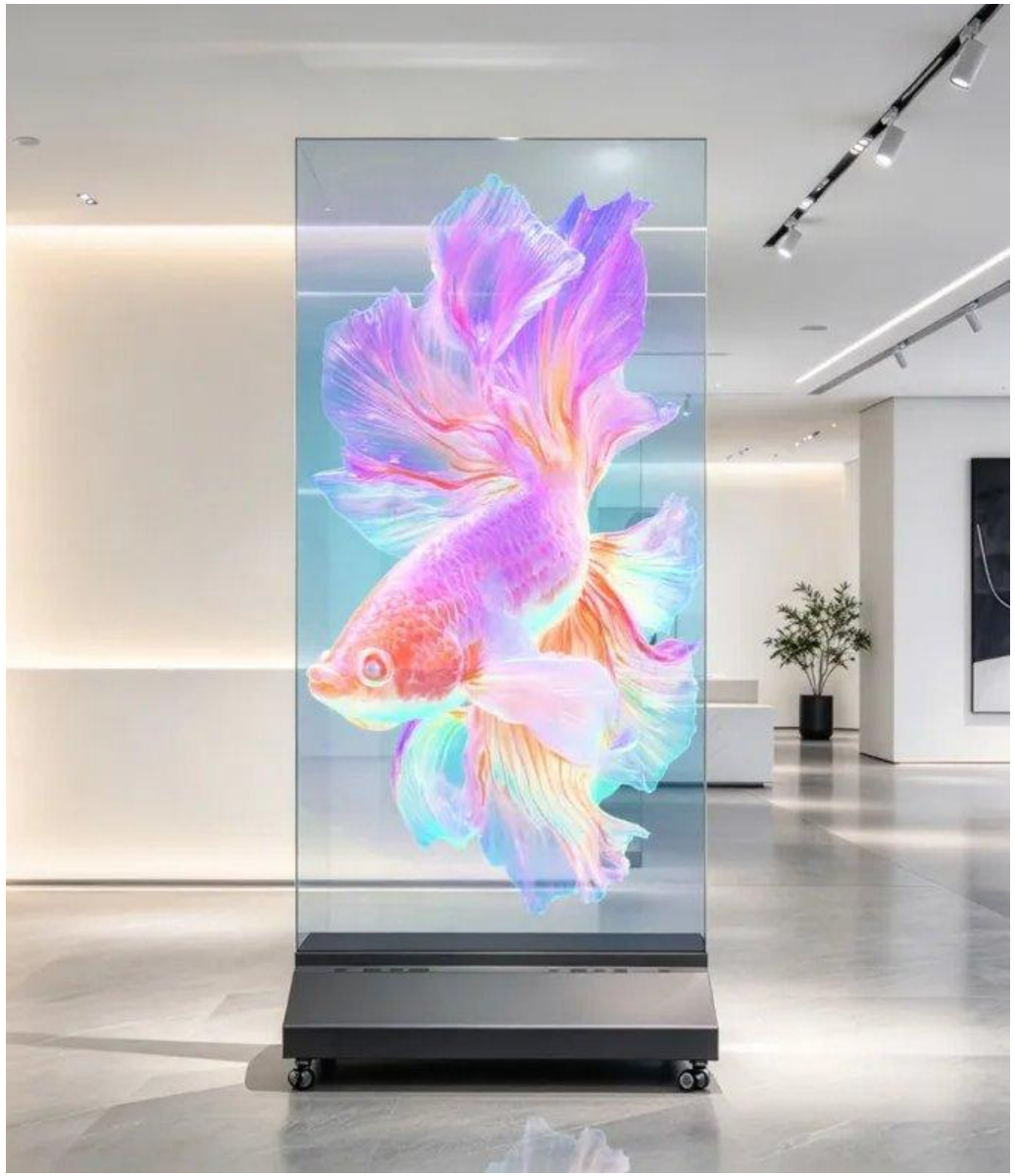
Tempered glass on a wheeled base. No building changes or installation work: just place it in a store or exhibition. Line up multiple units for a wider transparent display wall.

2,000
nits Peak Brightness

90%
Visual Transparency

1 × 2 m
Display Size

P3.9
Min. Pixel Pitch



— KEY FEATURES

Six Advantages of Floor-Standing LED Glass



High Transparency, Eye-Catching

Visual transparency up to **90%**. Vivid images while the space stays bright and open.



Frameless Design

The glass display has **no frame**, blending naturally into the space.



Seamless Side-by-Side

Multiple units join **seamlessly** to form a wider transparent display wall.



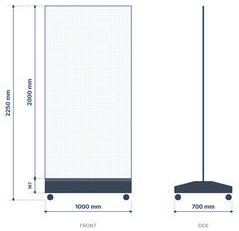
Mobile Base

The base is **on wheels**, easy to move as your layout changes.



No Installation, Ready to Use

No building changes. Place it in a store or exhibition and start playing.



Clear Even Up Close

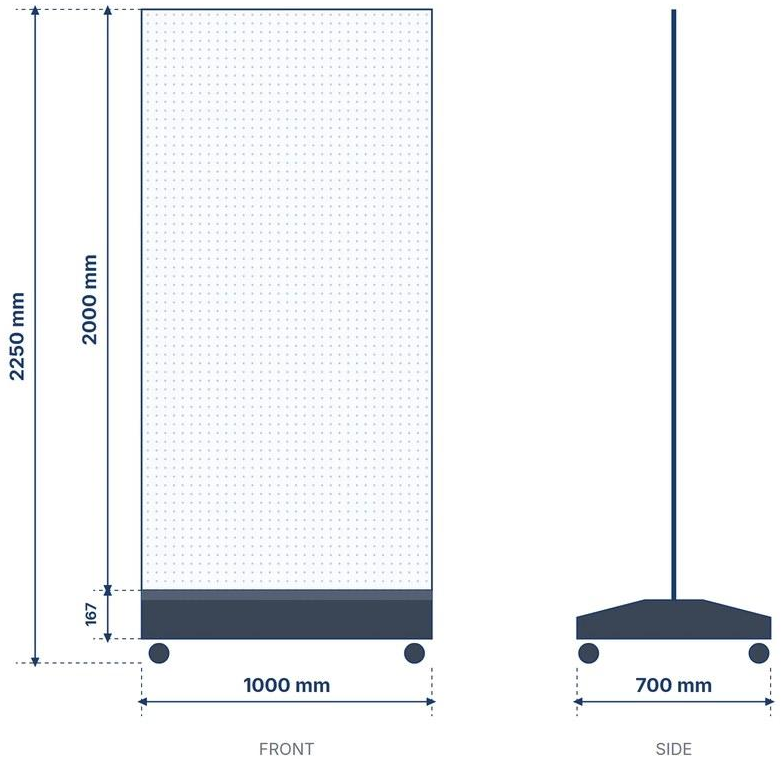
Pixel pitch down to **P3.9**, 256 × 512 px per unit.

— SPECIFICATIONS

Floor-Standing Specifications

Specification	P3.9	P4.63
Pixel Pitch	3.9 × 3.9 mm	4.63 × 4.63 mm
Resolution (W × H)	256 × 512 px	216 × 432 px
Visual Transparency	85%	**90%**
Brightness	1,500–2,000 nits	
Display Size (W × H)	1000 × 2000 mm	
Unit Size (W × H × D)	1000 × 2250 × 700 mm (incl. mobile base)	
Power (Max / Avg.)	580 / 190 W/㎡	
Weight	Display 60 kg; mobile base 40 kg	
Tiling / Environment	Seamless side-by-side / Indoor	

New series: please contact us for the control system and lead time.

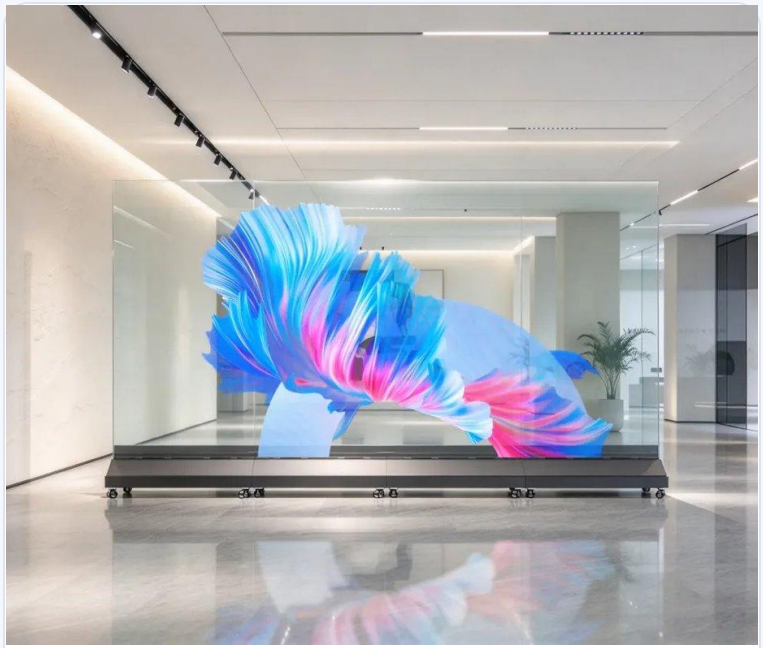


Applications



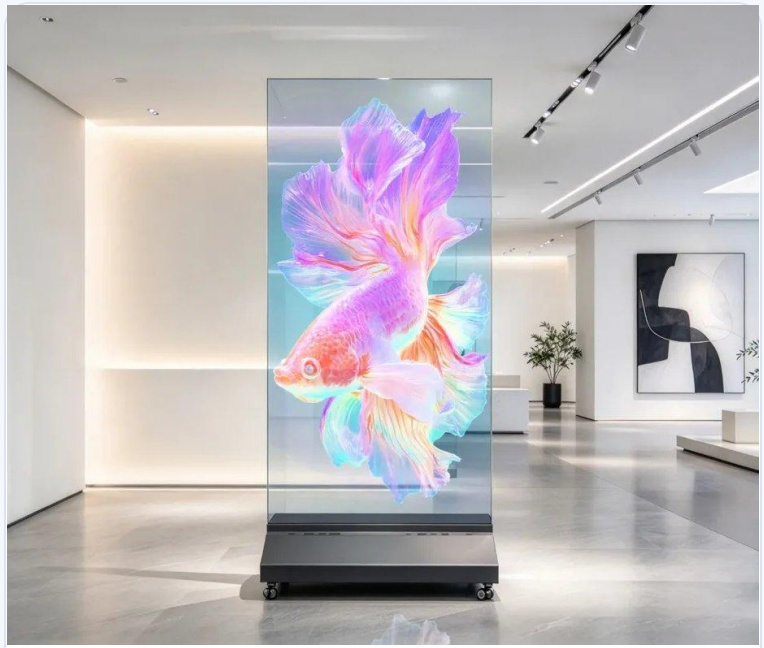
Retail Stores

Show new products and promotions in windows and on the sales floor without blocking the view.



Showrooms & Exhibitions

Move units as the layout changes, or join several into a larger display wall.



Lobbies & Events

Play brand content in lobbies, malls and event venues with no installation work.

03

Transparent OLED Display

Self-emissive T-AMOLED panels from LG Display. 38% transparency in a panel just 1.6 mm thick.

— TRANSPARENT OLED DISPLAY

See Through the Screen with True OLED Image Quality

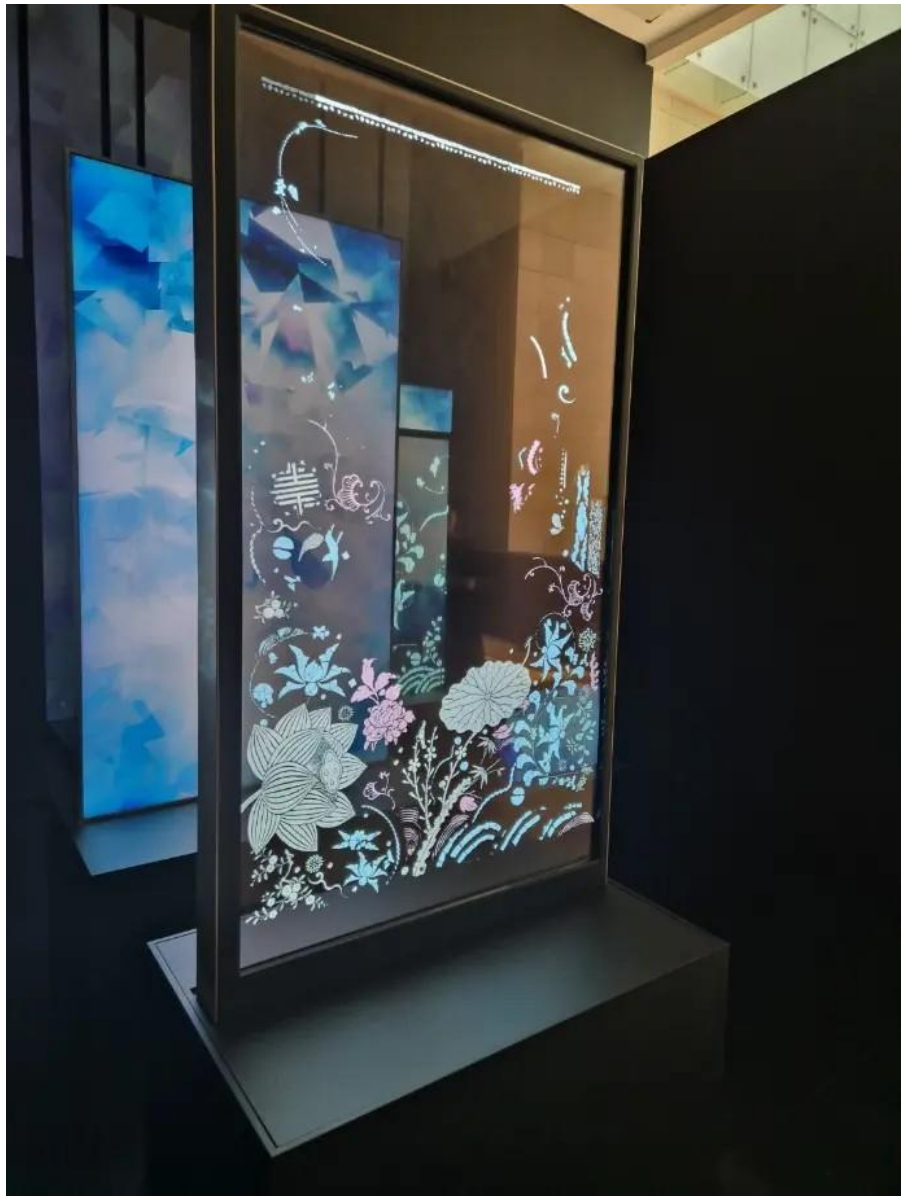
Each pixel emits its own light, so there is no backlight. Content floats in front of the space behind it, with deep blacks, high contrast and consistent color from any angle.

38%
Transparency

1.6 mm
Panel Thickness

30,000 hr
Panel Lifespan

30"–77"
Three Sizes Available



— FEATURES

Why Transparent OLED Display



High Transparency

38% transparency, 90% gamut, 10-bit color.



True Blacks, High Contrast

Self-emissive pixels, no backlight needed.



Ultra-Slim Panel

1.6 mm panel, OCR-bonded to tempered glass.



Motion Sensor Power Saving

Optional on 55" / 77", standby only 790 mW.



Optional Touch

PCAP touch for interactive guides and maps.



Complete Unit or Kit

Ready-to-install unit, or panel + control box.

— SPECIFICATIONS

Transparent OLED Specifications

Specification	30" Landscape	55" Landscape	77" Portrait
Resolution	1366 × 768 (HD)	1920 × 1080 (FHD)	3840 × 2160 (4K UHD)
Transparency / Color	38% / 90% gamut, 10-bit	38% / 90% gamut, 10-bit	38% / 90% gamut, 10-bit
Front Glass	3 mm chem. strengthened + OCR	5 mm chem. strengthened + OCR	4 mm chem. strengthened + OCR
Signal Input	HDMI ×1, DP ×1 (external player)	DP 1.2 ×2, HDMI 2.0 ×2	DP 1.2 In/Out, HDMI 2.0 ×2
Typical / Max Power	45 W / 86 W	96.5 W / 300 W	96.5 W / 300 W
Unit Size	678 × 450 × 5 mm	1252 × 882 × 51 mm	1735 × 1247 × 323 mm (with base)
Weight	30 kg	50 kg	80 kg

Common specs: 120° viewing angle | Panel lifespan 30,000 hours | Recommended ≤ 18 hours/day | Fanless | Optional PCAP touch | Videowall daisy chain up to 225 units (55" / 77")

How to choose: Choose a Complete Unit for fast deployment, or a Kit (panel + control box) to build the display into your own frame or interior.

04

Transparent LCD Display

A cost-effective transparent display for backlit display cases, coolers and vending machines.

— TRANSPARENT LCD DISPLAY

Let Your Products Speak for Themselves

Digital content appears directly in front of the real products. Paired with the lighting inside a display case, the screen and the merchandise blend into one display.

FHD
1920 × 1080 Resolution

4.45 mm
Bonded Module Thickness

3 mm
Tempered Cover Glass

HDMI
Direct Video Input



— HOW IT WORKS

How a Transparent LCD Works

1

Open-Cell LCD Panel

The LCD panel itself has no backlight. It controls light coming from behind to form the image.

2

Optically Bonded Glass

The panel is optically bonded to a 3 mm tempered cover glass with a black screen-printed border.

3

Backlit Enclosure

A light box or lit display case behind the panel is required. The brighter and more even, the better the image.

- ✓ Needs a **backlit enclosure** behind the panel
- ✓ Includes an **HDMI input board**
- ✓ Custom cover glass size **and printing**
- ✓ Landscape or portrait mounting
- ✓ Ideal for **display cases, coolers and vending machines**
- ✓ More cost-effective **than transparent OLED**

— SPECIFICATIONS

Transparent LCD Panel Kit Specifications

Specification	27"	32"
Resolution	1920 × 1080	1920 × 1080
Structure	Open-cell, optically bonded	Open-cell, optically bonded
Cover Glass (W × H)	638.89 × 377.32 mm	739.4 × 433.85 mm
Viewable Area (W × H)	598.89 × 337.32 mm	698.4 × 393.85 mm
Thickness	4.45 mm (glass 3.0 mm)	≈ 4.45 mm (glass 3.0 mm)
Border	Black screen print	20 mm black screen print
Input	HDMI	HDMI
Backlight	Not included	Not included



Other sizes and custom cover glass on request.

— TECHNOLOGY COMPARISON

Transparent LCD vs. Transparent OLED

Choose the right technology for your application and budget.

Feature	Transparent LCD Display	Transparent OLED Display
Light Source	Needs a backlit enclosure	Self-emissive, no backlight
Transparency	About 5–15%	About 38%
Image Quality	Lower contrast, grayish blacks	High contrast, true blacks
Thickness	Thicker overall structure	Panel just 1.6 mm
Viewing Angle	178°	120° (60° each direction)
Cost	Lower, budget-friendly	Higher, premium projects
Best For	Display cases, coolers, vending	Luxury retail, interactive, premium brands

— APPLICATIONS

Transparent OLED & LCD Applications



Display Cases & Coolers

Transparent LCD on coolers and showcases: content and real products in one view.



Museums & Luxury Retail

Transparent OLED adds information in front of artifacts and premium products.



Transit & Public Spaces

Vehicle windows, wayfinding and interactive information with optional touch.

— HOW WE WORK

How We Work

1

Share Your Needs

Size, environment, viewing distance and purpose.

2

Proposal & Quote

Model recommendation, layout and quotation within 1 business day.

3

Confirm Order

Production, plus burn-in testing and inspection before shipping.

4

Installation & Support

Installation guide, video and power layout; remote technical support.

Quotes are based on: LED – pixel pitch, total area, brightness version, control system; OLED / LCD – size, quantity, unit or kit; plus shipping and on-site installation.

— CONTACT US

Thank You. Let's Work Together.

Send us your glass size and site photos, and we will plan the right transparent display solution for you.

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