

Product Specification Sheet

Product Series: Apex Series COB Indoor Display

Product Model: IV6306B-IV6315B

Document Revision History

No	Revision No.	Change Status	Description of Changes (+/-)	Approved By	Date
1	V1.0	C	Creation	Jack Zhang	2025.07.10
2	V1.1	A	Added Apex Pro product spec.	Stella Zheng	2025.08.04
3	V1.2	A	Added Apex E product spec.	Stella Zheng	2025.08.05
4	V1.3	M	Modified the format and content.	Joyce Dong	2025.09.10
5	V1.4	M	Modified product parameters.	Stella Zheng	2025.12.02
6	V1.5	M	Modified product parameters.	Sheryl Li	2026.03.11
7	V1.5	M	Modification	Gloria	2026.06.08
8	V1.5	M	Modification	Lynn	2026.06.09

*Note on Change Status: C——Creation, A——Addition, M——Modification, D——Deletion

Disclaimer: This document outlines the technical parameters for the standard model within this series.

The actual product specifications may vary based on the configuration specified in the sales contract.

The images provided are for illustrative purposes only, the actual product may differ.

This document provides the technical specifications and images for the standard model, serving merely as a reference. The actual terms and details shall be governed by the contract.

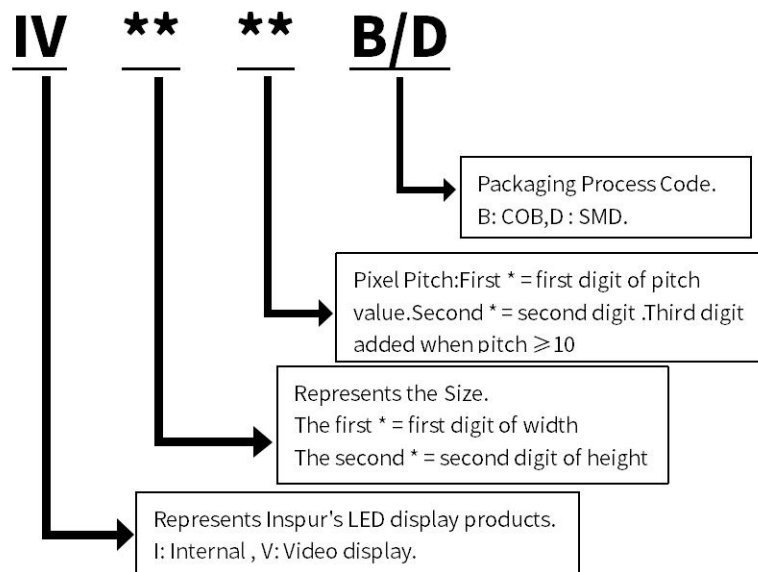
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1. Scope of Application

This technical manual applies only to the cabinets of the Apex Series models IV6306B, IV6307B, IV6309B, IV6312B, and IV6315B. The following parameters are for standard products, customizations are available for special requirements.

2. Naming Rules



Example: Model IV6309B refers to an LAC Vision indoor small-pitch LED display with the following specifications: a cabinet size of 600mm × 337.5mm, a pixel pitch of 0.9mm, and utilizing COB packaging technology.

3. Product Introduction

Based on the next-generation full flip-lamp COB micro-display technology, the LAC Vision Apex Series LED small-pitch display supports advanced HDR digital imaging technology. It features an ultra-large, ultra-thin, ultra-high-definition, ultra-bright, highly reliable, and well-protected design. The flip-lamp COB small-pitch ultra-HD display is set to become the ultimate solution for large-scale displays in the micro-display era.

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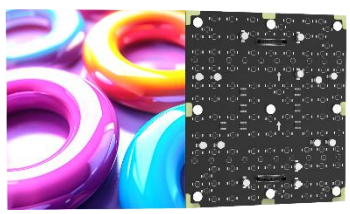
3.1 Product Features

- Utilizes full flip-lamp integrated COB packaging technology. The solder joints are upgraded from "points" to an entire "surface," delivering exceptionally stable and reliable performance.
- Features a 16:9 golden display ratio design, enabling pixel-to-pixel matching for FHD, 4K, and 8K resolutions.
- Boasts a 115% wide color gamut and a 160° viewing angle, ensuring consistent color and brightness without distortion from any angle.
- Incorporates panel surface anti-glare and anti-blue light technology, effectively reducing intense light radiation for comfortable viewing.
- Employs black optical treatment technology for superior black uniformity and a 10,000:1 ultra-high contrast ratio, creating deeply immersive visuals.
- Rated IP65 for comprehensive protection against corrosion, impact, shock, moisture, water, dust, salt spray, and static electricity.
- Implements unique temperature control and heat dissipation technology, ensuring uniform surface temperature and reducing power consumption by 20% compared to conventional displays.
- Supports HDR (High Dynamic Range) imaging technology, enriching image details and delivering fine, lossless quality for both static and high-motion content.

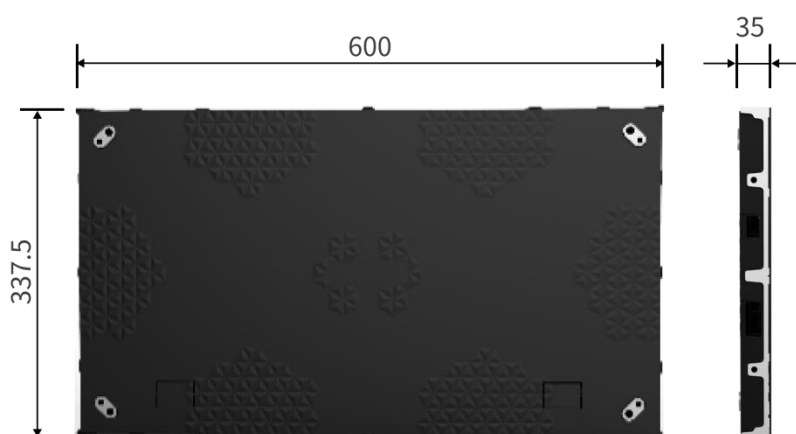
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- Front maintenance, eliminating the need for rear access space.

3.2 Module Images

A-Size Large Panel (300×168.75mm)	B-Size Small Panel (150×168.75mm)
	

3.3 Product Dimensions



Unit: mm

The above are the reference dimensions for the first-generation cabinet, and the dimensions shall be subject to the drawings at the time of shipment.

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4. Product Parameters

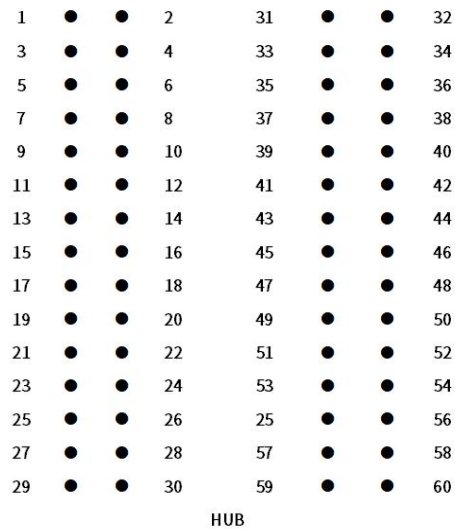
Apex Series COB Indoor Display							
Module	Model	IV6306B (Virtual Pixel)	IV6307B	IV6309B	IV6309B (Virtual Pixel)	IV6312B	IV6315B
	Pixel Structure	Flip-lamp COB					
	Pixel Pitch (mm)	0.62	0.78	0.93	0.93	1.25	1.56
	Module Size (W×H)(mm)	150×168.75					300×168.75
	Module Resolution (W×H)	120×135	192×216	160×180	80×90	120×135	192×108
	Pixel Density (dot/m ²)	640000	1638400	1137777	284444	640000	409600
	Circuit Solution	Common cathode	Common cathode	Common cathode/ Common anode	Common anode	Common cathode/ Common anode	Common anode
Cabinet	Unit Size (W×H×D)(mm)	600×337.5					
	Cabinet Resolution (W×H)	480×270	768×432	640×360	320×180	480×270	384×216
	Unit Weight (kg)	4	4	4	4	4	4
	Maintenance Type	Front Maintenance (rear maintenance customizable)					
	IP Rating	IP65 (Front)					
	Flatness (mm)	≤0.15					
Optical Parameters	Pixel-by-Pixel Calibration	Supported					
	Flash Storage Function	Supported					
	Brightness (cd/m ²)	600	600/800	600/800/1200	600	600/800/1200	600

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	Color Temperature (K)	9000 (Adjustable from 3000K to 10000K)
	Viewing Angle	Horizontal: 160° / Vertical: 160°
	Contrast Ratio	10000:1 (15000:1 optional)
Electrical Parameters	Maximum Power Consumption (W/m ²)	350
	Average Power Consumption (W/m ²)	110
	Operating Voltage	AC 100 ~ 240 V (50/60 Hz)
	Frame Rate	50/60 Hz
	Refresh Rate (Hz)	3840 (7680 optional)
	Gray Scale (bit)	14 (16bit optional)
Usage Specifications	Typical Lifetime (h)	≥100000
	Operating Temperature/ Humidity	-10°C ~ 45°C / 10% ~ 80%RH (no condensation)
	Storage Temperature/ Humidity	-20°C ~ 55°C / 10% ~ 85%RH (no condensation)

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5. Signal Interface Definition of Unit Panel



Note: The signal interface of the unit board is based on the IV6309B model. Data may vary for different models.

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	2.8V	2	2.8V	31	A	32	B
3	2.8V	4	2.8V	33	C	34	GND
5	2.8V	6	2.8V	35	GND	36	GND
7	2.8V	8	2.8V	37	CLK	38	LAT
9	GND	10	GND	39	OE	40	3.3V
11	GND	12	GND	41	S-CK	42	S-CS
13	GND	14	GND	43	S-MOSI	44	S-MISO
15	GND	16	GND	45	GND	46	GND
17	R1	18	R2	47	GND	48	GND
19	G1	20	G2	49	GND	50	GND
21	B1	22	B2	51	GND	52	GND
23	R3	24	R4	53	3.8V	54	3.8V
25	G3	26	G4	55	3.8V	56	3.8V
27	B3	28	B4	57	3.8V	58	3.8V
29	GND	30	GND	59	3.8V	60	3.8V

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6. Precautions

Item		Description
Environmental Precautions	Temperature Range	Storage Temperature Range: -20°C to +55°C. Temperature control (heating/cooling) is required if the ambient temperature falls outside this range. Operating Temperature Range: -10°C to +45°C. Temperature control equipment must be installed if the ambient temperature falls outside this range. LED Module Surface Temperature (During Operation): ≤ 60°C. Temperature control equipment is required if this limit is exceeded.
	Humidity Range	Storage Humidity Range: 10% to 85% RH. Dehumidification is required if the humidity exceeds 85% RH. Operating Humidity Range: 10% to 80% RH. Normal operation can only be ensured after dehumidifying the operating environment if the humidity exceeds this limit.
	Handling of Overdue Storage	Preheating Startup Procedure: If the display has been powered off for an extended period, the following preheating procedure must be executed before normal use to expel accumulated moisture and ensure stable operation: If powered off for > 3 days: Set the brightness to 30%–50% and preheat for 4–8 hours. Then, adjust the brightness to the normal operating level (80%–100%). If powered off for > 7 days: Set the brightness to 30%–50% and preheat for at least 12 hours. Then, adjust the brightness to the normal operating level (80%–100%). This process prevents abnormalities by effectively removing internal moisture.
	Dust Prevention Requirements	IP6X Dustproof Rating. To extend the product's service life, the display should be minimally exposed to high-dust environments, such as sandy outdoor areas or dusty indoor workshops.
	Corrosion-Resistant Gas Protection	Corrosive gases can cause corrosion and crystal leakage in electronic components.
	Electromagnetic Radiation Protection	The display should not be installed in environments where electromagnetic or radio frequency radiation exceeds a field strength of 5V/m.
	Shock Resistance	The display screen should be mounted on a sturdy and reliable installation structure that is free from intense vibrations.
	Personal Injury Prevention	To prevent personal injury, the modules must be installed at an appropriate angle and height. Additionally, any sharp edges or corners must be covered or padded to prevent injury caused by the rigid cabinet structure.

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	Special Environments	When using the LED display in special environments, it must be operated appropriately according to the specific application conditions. (Examples: 1. Seaside, swimming pools, bathhouses, basements, tunnels. 2. Chemical environments, sulfur-rich atmospheres, halogen environments. 3. Sandy, dusty, or high-particulate environments. 4. Strong ultraviolet radiation environments. 5. Strong electromagnetic field environments. 6. Environments with temperatures below -20°C or above 55°C, etc.)
Usage Precautions	Cleaning Method	To clean the module surface, use a soft-bristled brush to gently remove dust. Do not use any liquid to clean the LED module surface, as this may damage the LED lamps.
	ESD Protection	Installation personnel must wear an anti-static wrist strap and anti-static gloves. All tools used during assembly must be properly grounded.
	Product Batch Number Management	Products from different batch numbers must not be installed on the same screen. Mixing batches may lead to color inconsistency (mosaic effect) on the display.
	Product Wiring	Unit boards must not be directly connected to 220V AC power. Ensure the DC power supply polarity (positive/negative) is correct when connecting to the unit board.
	Handling and Transportation	Do not disassemble, push, squeeze, or press the modules during handling, as this may cause damage to the display.
	Liquid Protection During Maintenance	During installation or maintenance, prevent sweat or other liquids from dripping onto the display. If any liquid contact occurs, clean the area immediately with alcohol to prevent corrosion.
	Installation Torque Control	When wiring the power supply, ensure the terminal screws are securely tightened to prevent loose connections. Loose connections can cause high contact resistance, leading to wire burnout or product damage. The recommended torque is 6.0–8.0 kgf·cm for M4 screws and 4.0–6.0 kgf·cm for M3 screws.
	Prohibition of Live Operation	All unit board installation and splicing must be performed with the main power input disconnected. Never connect or disconnect power or signal cables while the system is energized.

Note:

The above parameters represent typical values for the product. Variations may occur across different production batches, and the actual parameters of the product shall be subject to the factory inspection report.

During the product manufacturing process, continuous optimization and iteration are carried out, and the product specifications may be adjusted at any time. Please consult with regional agents before making a purchase.

For customized products, a new specification sheet needs to be issued.

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