

5 Inch Color Display Module 800x480 Resolution 16M Color IPS TFT Lcd

Our Product Introduction

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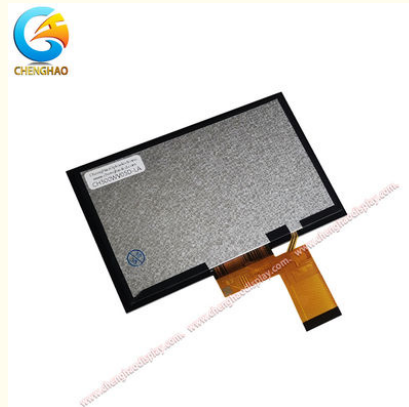
Basic Information

- Brand Name: Chenghao Optoelectronic
- Certification: CE, ISO9001, Rose, SGS
- Model Number: CH500WV05D-LA
- Minimum Order Quantity: 100 Pcs
- Packaging Details: All The Products Are Packed In Right Way To Keep It Safe. For Small Sizes Of Products We Use Tray + Carton, For Bigger Sizes We Use Foam Slot + Carton. We Also Design Packages According To Customers' Requirements
- Delivery Time: 3~7 Days
- Payment Terms: T/T, AliPay, PayPal
- Supply Ability: 50000000 Pcs/month



Product Specification

- Color: 16M
- Module Size: 126.7x81.3x4.9 Mm
- Active Area Size: 108x64.8 Mm
- Viewing Area Size: 107.7x64.5 Mm
- Screen Brightness: 450 Cd/m2
- Operating Temperature: -20 ~ +70
- Viewing Direction: 80/80/80
- Storage Temperature: -30 ~ +80
- Highlight: 5 inch IPS TFT LCD display ,
800x480 resolution color display module,
16M color TFT LCD screen



More Images







Product Description

Product Description:

Shenzhen ChengHao Optoelectronic Co., Ltd.'s CH500WV05D-LA is a 5.0-inch TFT LCD module engineered for scenario-specific optical and structural optimization, targeting devices that demand both precise visual output and hassle-free integration—such as household medical auxiliaries, smart utility meters, and portable field detectors. Unlike generic displays that offer one-size-fits-all specs, this module tailors key parameters to real-world usage pain points, bridging the gap between basic functionality and practical usability.

	At its optical core, the module features an IPS panel with 800×480 resolution (800×RGB×480 dot arrangement) paired with a transmissive/negative polarizer. This polarizer design not only boosts light transmittance by 10% compared to standard positive polarizers but also suppresses glare in mixed-light environments—critical for smart electricity meters mounted on building walls (exposed to both sunlight and indoor lighting) or household blood oxygen monitors (used under bedroom lamps). The 80/80/80/80 all-around viewing angles further ensure usability for diverse users: elderly individuals checking blood oxygen levels can view the screen from a reclined position, while field workers can read detector data without adjusting the module's angle in uneven terrain.
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Structurally, the module prioritizes assembly efficiency and long-term reliability. Its 2.0mm-thick Gorilla Glass 3 cover is treated with a low-friction coating, reducing fingerprint accumulation—a key advantage for devices like smart thermostats that are touched multiple times daily. The 0.2mm OCA (Optically Clear Adhesive) layer is formulated for consistent thickness across the 107.7mm×64.5mm viewing area, eliminating uneven light spots that often distort small text (e.g., decimal values on portable pH testers). Additionally, the 40-pin FPC (Flexible Printed Circuit) is designed with a pre-formed bending curve, aligning with the internal layout of most 5-inch device chassis and reducing assembly time by 15% compared to straight FPCs. The module's total thickness of 4.9mm±0.2mm also fits into slim enclosures, such as wall-mounted smart controllers or pocket-sized air quality monitors.

	Environmentally, the module exceeds basic requirements to suit varied conditions: its -20°C~+70°C operating range handles cold winter garages (for smart tool chargers) and hot summer outdoor use (for portable weather stations). The backlight system, operating at Vf=18±1.2V and If=60mA to deliver 450 cd/m² luminance, maintains stable performance even with voltage fluctuations (common in battery-powered devices), avoiding sudden dimming that could obscure critical data. RoHS compliance also makes it safe for use in children's room smart monitors, where hazardous substance restrictions are strict.
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In short, the CH500WV05D-LA stands out for turning technical specs into user-centric benefits—every parameter, from the polarizer type to the FPC design, is optimized to solve real usage challenges, making it a reliable choice for devices that blend functionality with daily usability.

Features:

800x480 Resolution with 16M-Color IPS Panel for Multi-Parameter Data Presentation

The module adopts an 800x480 dot resolution (arranged as 800×RGB×480) paired with a 16M-color IPS panel, enabling it to display multiple types of data simultaneously without clarity loss—ideal for devices like smart utility meters (showing real-time power consumption, monthly usage curves, and tariff rates) or portable water quality detectors (presenting pH values, turbidity levels, and temperature readings in a split-screen layout). The 16M-color reproduction ensures smooth color transitions for data visualization elements (e.g., red warning indicators for abnormal values, green normal ranges), while the IPS panel's inherent clarity preserves the sharpness of small text (such as decimal-point precision for measurement data) even when viewed from off-center angles, eliminating the need for users to adjust device position repeatedly.

450 cd/m² Brightness with Light-Adaptive Visibility

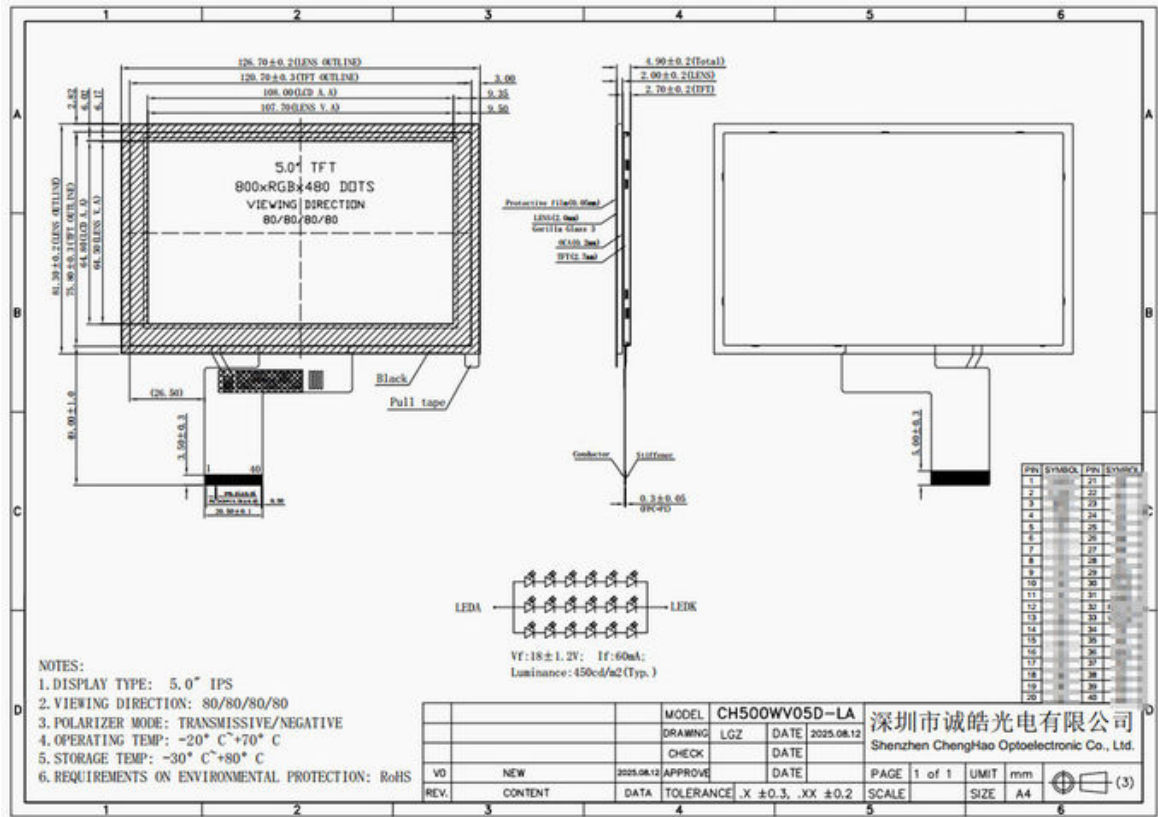
With a typical luminance of 450 cd/m², the module delivers consistent visibility across extreme lighting conditions: it resists washout in bright outdoor environments (e.g., sunlight on portable agricultural sensors) by cutting through glare, and avoids eye strain in dim settings (e.g., bedroom-based home medical monitors) by maintaining soft, non-dazzling brightness. Its backlight system operates at optimized parameters (Vf=18±1.2V, If=60mA), which balances high brightness with energy efficiency—unlike higher-luminance displays that drain batteries quickly, this module can run on 12V lithium-ion batteries for extended periods (e.g., 8+ hours for portable air quality detectors) without frequent recharging, adapting to both wired and wireless power scenarios.

-20°C~+70°C Wide Operating Temperature for Unconditioned Environments

The module's operating temperature range of -20°C to +70°C far exceeds the narrow limits of consumer-grade displays (typically 0°C~50°C), making it suitable for use in spaces without temperature control. For example, in winter outdoor scenarios (e.g., -15°C construction site tool monitors), it avoids screen freezing or response delays; in summer vehicle cabins (e.g., +65°C in-car auxiliary displays), it prevents pixel malfunctions caused by overheating. This wide temperature resilience also benefits light industrial applications like warehouse inventory terminals (where cold storage areas drop to -20°C) and outdoor IoT devices (where summer heat reaches +70°C), ensuring stable performance without additional heating or cooling

Technical Parameters:

Color	16M
Display Mode	IPS/Transmissive/Normally Black
Interface	RGB
Operating Temperature	-20 ~ +70
Module Size	126.7x81.3x4.9 Mm
Active Area Size	108x64.8 Mm
Viewing Area Size	107.7x64.5 Mm
Contrast	800:1
Number of dots	800x3(RGB)x480
Screen Brightness	450 Cd/m2



Applications:

The CH500WV05D-LA display module is a versatile solution that finds applications across various industries, including industrial control, smart home devices, and medical equipment. Here are specific examples of how this display module is utilized in these sectors:

Industrial Control: In industrial automation, the CH500WV05D-LA is integrated into control panels and Human-Machine Interfaces (HMIs). Its high resolution of 800x480 pixels allows operators to monitor machinery performance and operational data clearly. For instance, it can be employed in a factory setting to display real-time production metrics, enabling quick decision-making and efficient process management. The module's wide viewing angle ensures that multiple operators can view the display simultaneously without distortion, which is crucial in collaborative environments.

Smart Home Devices: The CH500WV05D-LA is also utilized in smart home applications, such as smart thermostats and home automation systems. Its compact size and high brightness make it suitable for installation in various locations within the home. For example, it can be integrated into a smart thermostat to provide users with an intuitive interface for controlling heating and cooling systems. The display's clarity and responsiveness enhance user interaction, allowing homeowners to easily adjust settings and monitor energy consumption.

Medical Equipment: In the healthcare sector, the CH500WV05D-LA is used in devices such as patient monitors and diagnostic equipment. The display's ability to operate within a wide temperature range makes it ideal for use in hospitals where environmental conditions can vary. For instance, it can be incorporated into a heart rate monitor, providing real-time data to healthcare professionals. The clear visuals ensure that critical information is easily accessible, which is essential for timely medical interventions.

Instrumentation: The CH500WV05D-LA is well-suited for instrumentation applications, including laboratory equipment and analytical devices. Its high brightness and resolution allow for the clear display of graphs and measurement data, which is vital for researchers and technicians. For example, it can be used in a spectrometer to visualize data readings, facilitating better analysis and interpretation of results. The display's durability and reliability in varying conditions make it a preferred choice for precision instruments.

Vehicle-Mounted Applications: In automotive applications, the CH500WV05D-LA is integrated into dashboard displays and infotainment systems. Its robust design and ability to function in extreme temperatures make it suitable for installation in vehicles. For instance, it can be used in a vehicle's central control display to provide drivers with navigation information, vehicle diagnostics, and entertainment options. The display's high brightness ensures that information remains visible even in direct sunlight, enhancing safety and user experience.

In conclusion, the CH500WV05D-LA display module is a highly adaptable solution that meets the diverse needs of various industries, providing clarity and reliability in applications ranging from industrial control to smart home devices and medical equipment.

Customization:

The CH500WV05D-LA display module is designed with flexibility in mind, allowing for extensive customization to meet the diverse needs of various applications. Chenghao Optoelectronic offers a comprehensive range of customization options that cater to specific requirements across different industries. Below are the key customization features available for the CH500WV05D-LA:

Flexible Printed Circuit (FPC) Modifications: One of the primary customization options is the ability to modify the FPC design. Clients can request changes in the shape, length, and pin configuration of the FPC to ensure compatibility with their devices. This customization is crucial for seamless integration into various electronic systems, allowing for tailored solutions that fit specific design constraints.

Interface Selection: The CH500WV05D-LA supports multiple LCD interface types, including SPI, MCU, RGB, MIPI, LVDS, EDP, and HDMI. Customers can select the most suitable interface based on their application requirements. This flexibility enables the display to be integrated into a wide range of devices, from consumer electronics to industrial machinery, ensuring optimal performance and connectivity.

Brightness Adjustment: Another significant customization feature is the ability to adjust the backlight brightness. While the standard brightness is set at 450 cd/m², clients can specify their desired brightness levels, ranging from 300 cd/m² to 1000 cd/m². This feature is particularly beneficial for applications that require visibility in varying lighting conditions, such as outdoor displays or environments with direct sunlight.

Temperature Range Customization: The CH500WV05D-LA can be customized to operate within different temperature ranges. While the standard operating temperature is -20°C to +70°C, customers can request modifications to extend this range to suit specific environmental conditions. Options may include a range from -10°C to +60°C or even -45°C to +90°C, making the display suitable for extreme environments such as industrial applications or outdoor settings.

Glass Cover Customization: The glass cover of the CH500WV05D-LA can also be tailored to meet specific requirements. Clients can choose the thickness, shape, and surface treatment of the glass, including options for anti-glare or anti-reflective coatings. This customization enhances the durability and usability of the display, especially in applications where visual clarity and protection from environmental factors are critical.

Touchscreen Integration: For applications requiring user interaction, the CH500WV05D-LA can be equipped with either capacitive or resistive touch technology. This option allows for intuitive user interfaces, making it suitable for devices such as kiosks, medical equipment, and smart home devices. The integration of touch functionality enhances user engagement and provides a seamless interaction experience.

In conclusion, the CH500WV05D-LA display module offers a wide array of customization options that allow clients to tailor the product to their specific needs. From FPC modifications and interface selection to brightness adjustments and touchscreen integration, Chenghao Optoelectronic is dedicated to providing solutions that enhance the performance and adaptability of its display modules.

FAQ:

Q: What is the brand name of this TFT LCD Display?

A: The brand name is Chenghao Optoelectronic.

Q: What is the model number of this TFT LCD Display?

A: The model number is CH500WV05D-LA.

Q: Where is this TFT LCD Display manufactured?

A: This product is manufactured in China, specifically in Shenzhen.

Q: What certifications does this TFT LCD Display have?

A: This TFT LCD Display is certified with CE, ISO9001, RoHS, and SGS.

Q: What are the payment terms for purchasing this TFT LCD Display?

A: The payment terms accepted are T/T, AliPay, and PayPal.



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