



2.4 Inch IPS TFT LCD Module 240x320 Resolution 4-Line SPI Display

Basic Information

- Place of Origin: China
- Brand Name: chenghao optoelectronic
- Certification: RoHS & CE & FCC
- Model Number: CH240QV64A
- Minimum Order Quantity: 100 pcs
- Price: Negotiable
- Packaging Details: Standard export packaging
- Delivery Time: 7-15 work days
- Payment Terms: T/T
- Supply Ability: 300,000 pieces/month



Product Specification

- Module No: CH240QV64A
- Display Mode: Transmissive / Normally Black
- Screen Size: 2.4 Inch
- Resolution: 240x320
- Viewing Direction: 80/80/80
- Screen Brightness: 300 Cd/m² (typ.)
- Module Interface: 4-Line SPI
- FPC Pin Numbers: 10 Pins
- Operating Temperature: -20°C ~ +70°C
- Storage Temperature: -30°C ~ +80°C



More Images



Product Description

The CH240QV64A is a 2.4-inch IPS TFT LCD module with 240x320 resolution, 4-Line SPI interface, and 300cd/m² brightness, designed for compact embedded systems. Featuring full 80/80/80/80 viewing angles and a transmissive normally-black display mode, it delivers sharp contrast and consistent color from any direction. The module supports a wide operating temperature range of -20°C to +70°C, making it suitable for industrial control panels, portable instruments, and outdoor handheld devices. With a compact 10-pin SPI connection, this display enables straightforward integration with low-pin-count MCUs while maintaining crisp 240x320 pixel rendering. The IPS panel ensures sunlight readability when paired with proper enclosure design, while the normally-black mode delivers deep blacks and excellent contrast ratio for applications demanding clear data visualization in varying ambient light conditions.

Product Features

1. Compact 2.4-Inch IPS Display for Space-Constrained Embedded Systems

The small 2.4-inch form factor fits into handheld meters, portable diagnostic tools, and compact IoT control panels where every millimeter of enclosure space matters.

2. Full 80/80/80/80 Viewing Angles for Multi-Position Readability

IPS panel technology ensures consistent color and contrast from any viewing direction, enabling operators to read data clearly from off-axis positions in industrial equipment panels and monitoring stations.

3. Wide Operating Temperature Range (-20°C to +70°C)

Reliable performance across extreme environments makes this module suitable for outdoor instrumentation, cold-chain logistics trackers, and factory-floor control interfaces exposed to temperature swings.

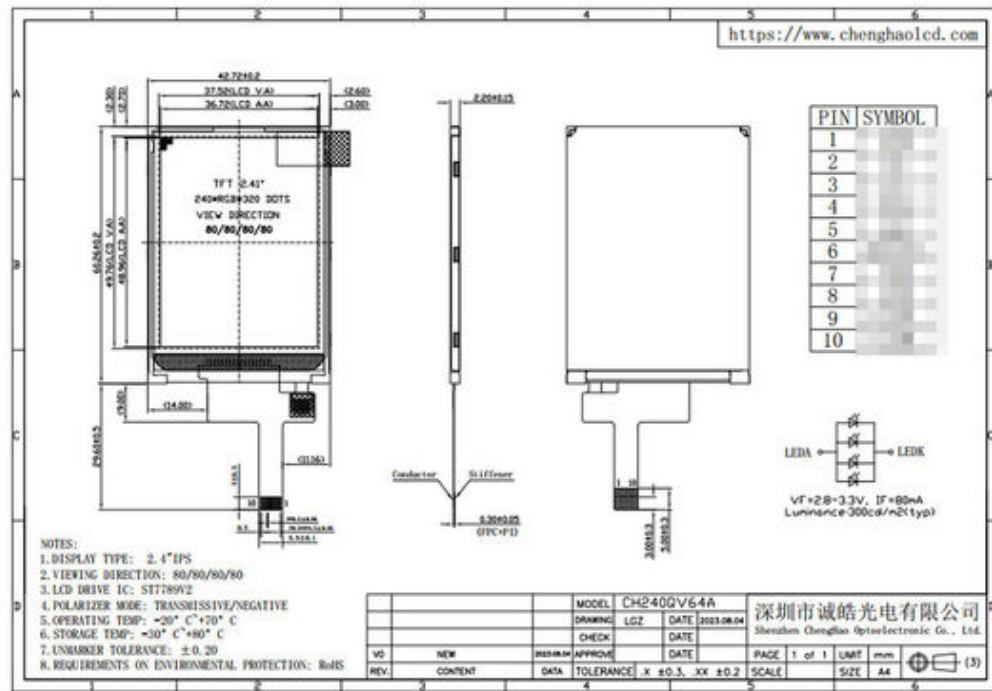
4. Simple 4-Line SPI Interface for Low-Pin-Count MCU Integration

With just 10 pins and a straightforward SPI protocol, this display connects easily to resource-constrained microcontrollers, reducing PCB complexity and accelerating prototype development.

5. Transmissive Normally-Black Mode with 300cd/m² Brightness

The normally-black display mode delivers deep blacks and high contrast for crisp data visualization, while 300cd/m² brightness ensures legibility in indoor and shaded outdoor environments.

Product Drawing



Detailed Specifications

Item	Value
Module Name	2.4" IPS TFT LCD Module
Module No	CH240QV64A
Display Mode	Transmissive / Normally Black
Screen Size	2.4 inch
Resolution	240x320
Viewing Direction	80/80/80/80
Screen Brightness	300 cd/m ² (typ.)
Module Interface	4-Line SPI
FPC Pin numbers	10 pins
Operating Temperature	-20°C ~ +70°C
Storage Temperature	-30°C ~ +80°C

Customized Introduction

Chenghao delivers professional customization across TFT LCD modules, mono LCD displays, color OLED modules, and mono OLED modules. We offer:

FPC Tailoring: Custom FPC outline, length, and pin count to match your enclosure and connector layout.

Interface Adaptation: SPI, MCU, RGB, MIPI, LVDS, EDP, and HDMI interface options available to suit your host platform.

Brightness Tuning: From standard 200-300 cd/m² to high-brightness 500+ cd/m², calibrated for indoor or sunlight-readable applications.

Touch Integration: Capacitive touch, resistive touch, or no-touch configurations based on your product requirements.

Anti-Glare Coating: AG surface treatment to reduce ambient reflections for outdoor and high-glare environments.

Cover Glass Customization: Tailored glass thickness, shape, color, and silk-screen printing to match your brand and industrial design.

Contact our engineering team with your specifications for a tailored solution.

Application Cases

Portable Measurement Instruments: The compact 2.4-inch form factor and simple 4-Line SPI interface make this display ideal for handheld multimeters, environmental sensors, and portable spectrum analyzers where space and pin count are limited.

Industrial IoT Control Panels: Wide -20°C to +70°C operating temperature and IPS full-viewing-angle display ensure reliable operation in factory-floor control nodes, HVAC zone controllers, and smart agriculture monitoring terminals.

Medical Handheld Devices: The transmissive normally-black mode with 300cd/m² brightness delivers clear data readout for portable glucose meters, pulse oximeters, and compact patient monitoring handhelds used in clinical settings.

Cold-Chain Logistics Trackers: Wide-temperature capability and low-power SPI interface suit battery-operated temperature loggers and GPS tracking devices exposed to refrigerated transport environments.

FAQ

Q1: What is the interface protocol for this display?

The CH240QV64A uses a 4-Line SPI interface with 10 pins, supporting straightforward communication with low-pin-count MCUs for embedded applications.

Q2: Can this module operate in outdoor environments?

Yes. With an IPS panel, 300cd/m² brightness, and a wide -20°C to +70°C operating range, it performs reliably in outdoor instrument panels and handheld devices.

Q3: What power supply voltage does the display require?

The module operates at standard 3.3V logic levels, compatible with most ARM Cortex-M and similar low-power MCU platforms.

Q4: Is the FPC customizable for different connector layouts?

Yes. Chenghao provides custom FPC outline, pin count, and connector type options to fit your specific enclosure and PCB design requirements.

Q5: Can the brightness be adjusted via software?

Brightness can be controlled through PWM dimming on the backlight LED pins, allowing dynamic adjustment based on ambient light conditions or power-saving requirements.



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