DIYmalls ESP32-3248S035C

DIYmalls 3.5" ESP32-3248S035C Capacitive Touchscreen Module with Acrylic Case Instruction Manual

Model: ESP32-3248S035C

1. Introduction

This manual provides detailed instructions for the setup, operation, and maintenance of your DIYmalls 3.5" ESP32-3248S035C Capacitive Touchscreen Module with Acrylic Case. Please read this manual thoroughly before using the product to ensure proper functionality and longevity.

2. Product Overview

The ESP32-3248S035C module is a development board combining an ESP32 microcontroller with a 3.5-inch capacitive touchscreen. It features a 480x320 resolution TFT LCD with an ST7796 driver. This version offers a more flexible user experience compared to resistive touch models. The package includes the ESP32 module, a Dupont female to 1.25mm wire, a USB 2.0 to micro USB data cable, and an acrylic case for protection.

2.1 Key Features

- ESP32-3248S035C module: ESP32 + 3.5 inch 320x480 capacitive touchscreen.
- Capacitive touch screen for enhanced flexibility.
- Includes acrylic case for protection.
- Comes with necessary cables for connectivity.

2.2 Components Included

- 1x ESP32-3248S035C Module
- 1x Dupont female to 1.25mm wire
- 1x USB 2.0 to micro USB data cable (1 meter)
- 1x Acrylic Case

2.3 Module Layout



Figure 1: Overview of the ESP32-3248S035C module with its acrylic case, highlighting key components and connection points such as the micro USB port, TF card slot, power input, speaker output, boot and reset buttons, and general-purpose input/output (IO) pins.

The module features a micro USB port for power and data, a TF card slot for expandable storage, and various labeled pins for power, speaker, and general I/O. It also includes dedicated boot and reset buttons for development purposes.

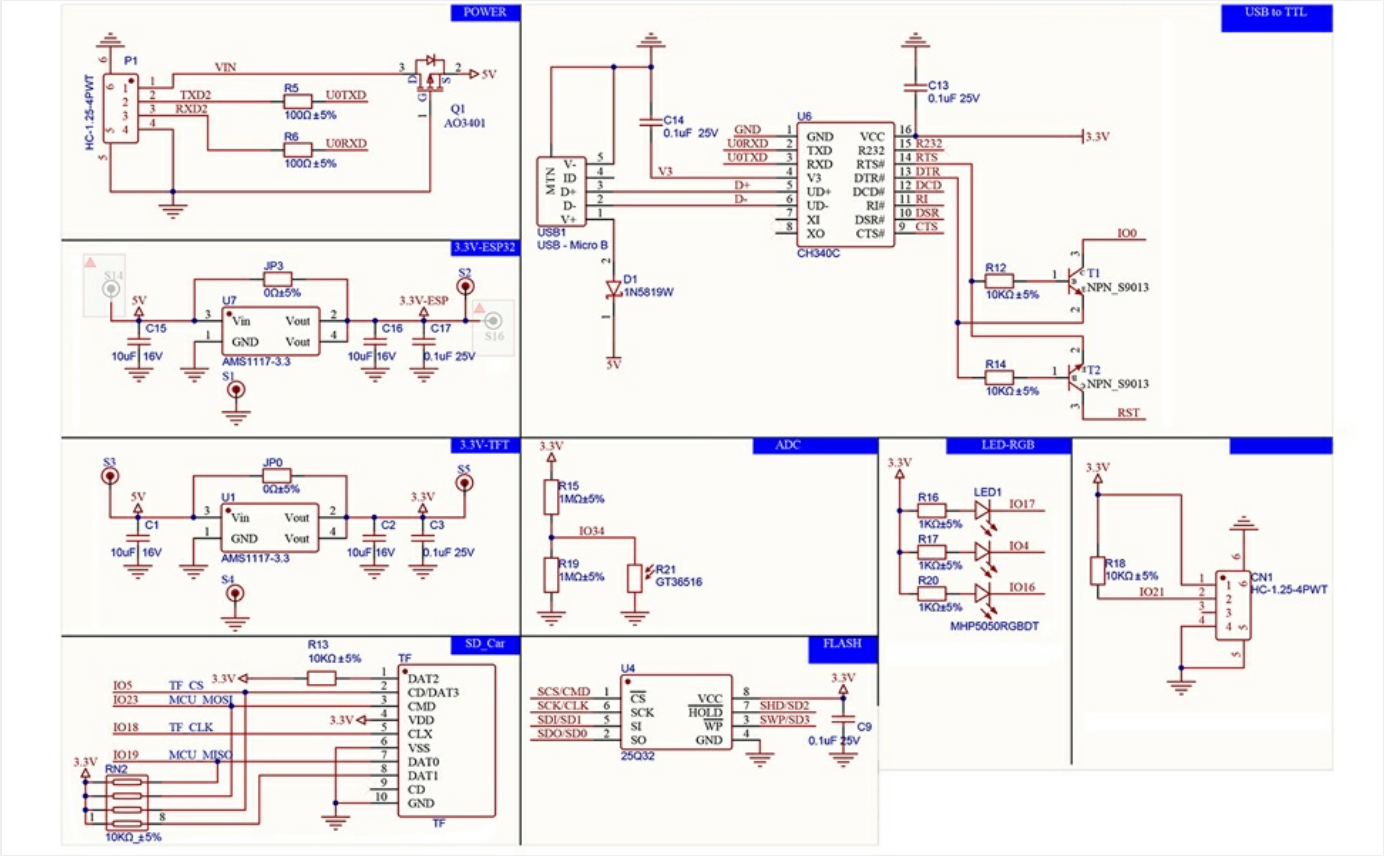


Figure 2: Detailed schematic diagram of the ESP32-3248S035C module, illustrating the internal connections for power management, USB to TTL conversion, the ESP32 chip, TFT display interface, Analog-to-Digital Converter (ADC), RGB LED control, and the SD card interface. This diagram is useful for advanced users and developers.

3. Setup Instructions

3.1 Power Requirements

The 3.5-inch ESP32 display requires a stable 5V power supply. It is recommended to power the module via a dedicated 5V charger. Avoid powering it directly from a PC's USB port, even if the PC provides 5V, as some PC USB ports may not supply sufficient current or stable voltage for optimal operation.

3.2 Acrylic Case Installation

The included acrylic case provides protection for the module. Follow these steps for installation:

1. Carefully remove the protective film from both sides of the acrylic case pieces before assembly.
2. Align the module with the bottom piece of the acrylic case.
3. Place the top piece of the acrylic case over the module.
4. Secure the case using the provided screws and nuts.



Figure 3: Image demonstrating the removal of the protective film from an acrylic case component. Ensure all protective films are removed from both sides of each piece before assembling the case.

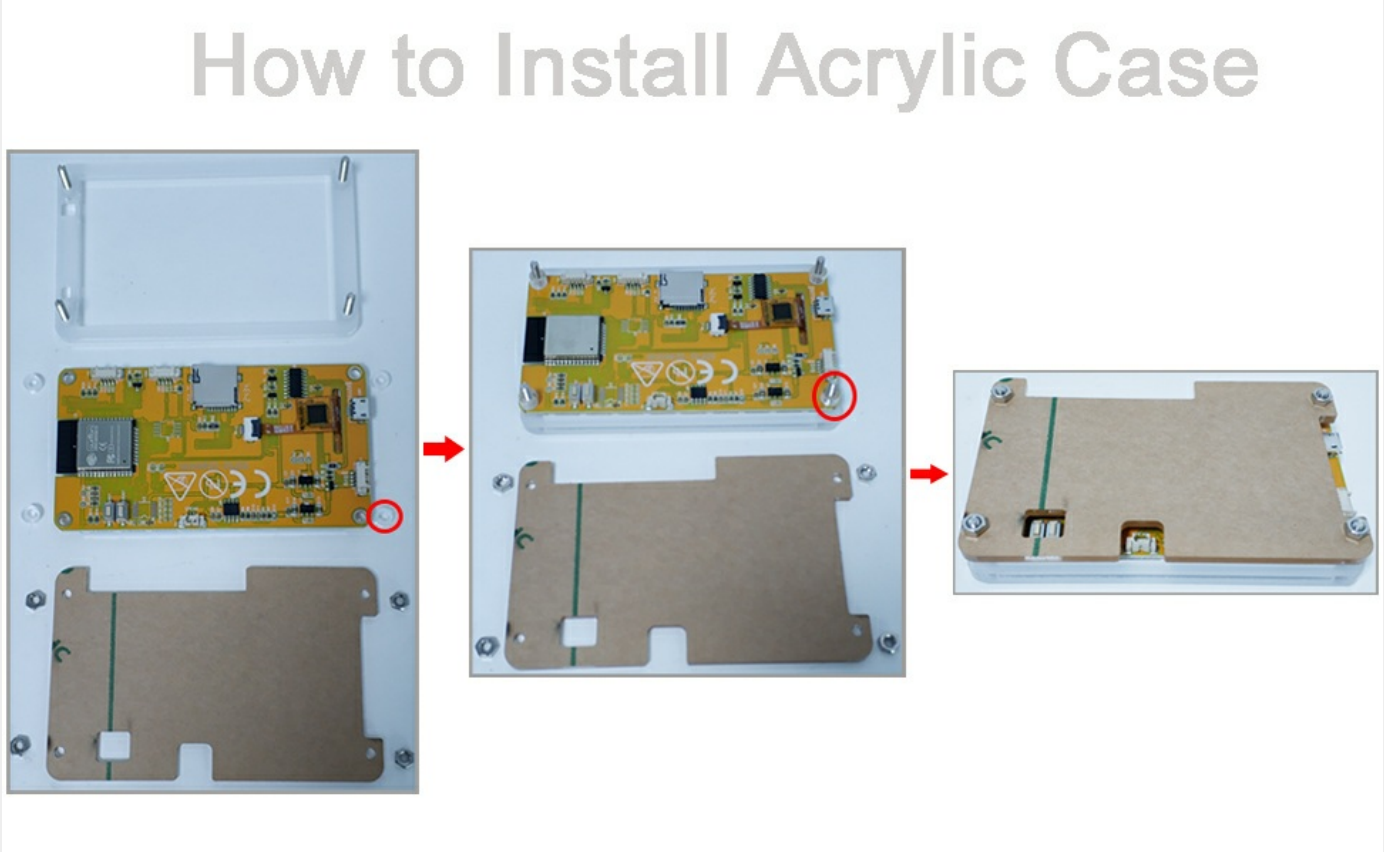


Figure 4: Step-by-step visual instructions for assembling the acrylic case around the ESP32-3248S035C module. This sequence shows placing the module on the bottom plate, covering it with the top plate, and securing it with screws.

3.3 Initial Programming Setup (Arduino IDE)

For programming with the Arduino IDE, you will need to configure the board and COM port settings. This module is often

compatible with the "ESP32 Dev Module" board setting.

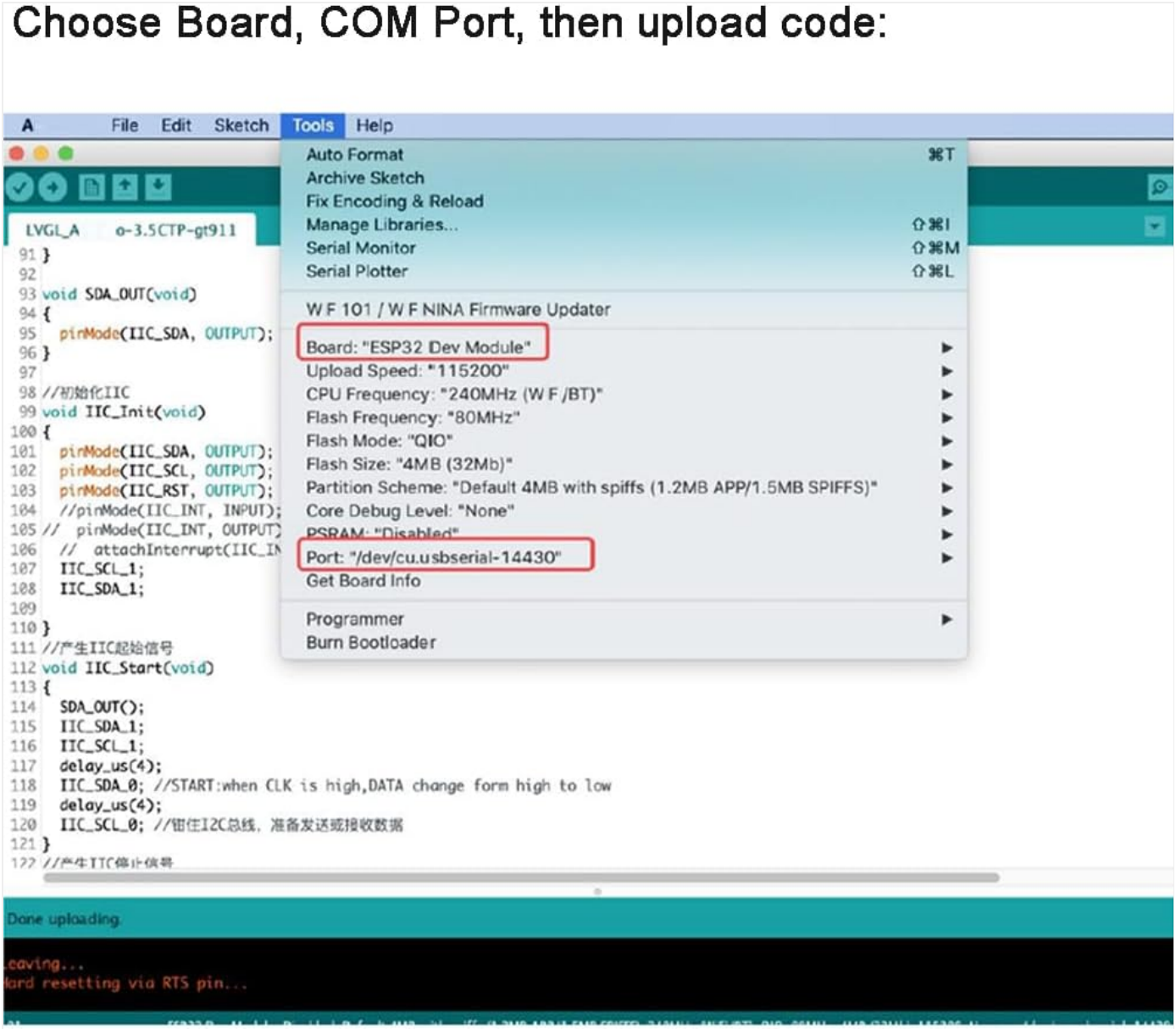


Figure 5: Screenshot illustrating the selection of the "ESP32 Dev Module" in the Arduino IDE's Tools menu, along with the appropriate COM port for uploading code to the ESP32-3248S035C. This is a crucial step for successful programming.

Ensure you have the ESP32 board definitions installed in your Arduino IDE. Select**Tools > Board > ESP32 Arduino > ESP32 Dev Module**. Then, select the correct COM port under**Tools > Port** that corresponds to your connected ESP32 module.

3.4 Flashing Firmware (ESP32 Flash Tool)

If you are using the ESP32 Flash Tool, follow these steps:

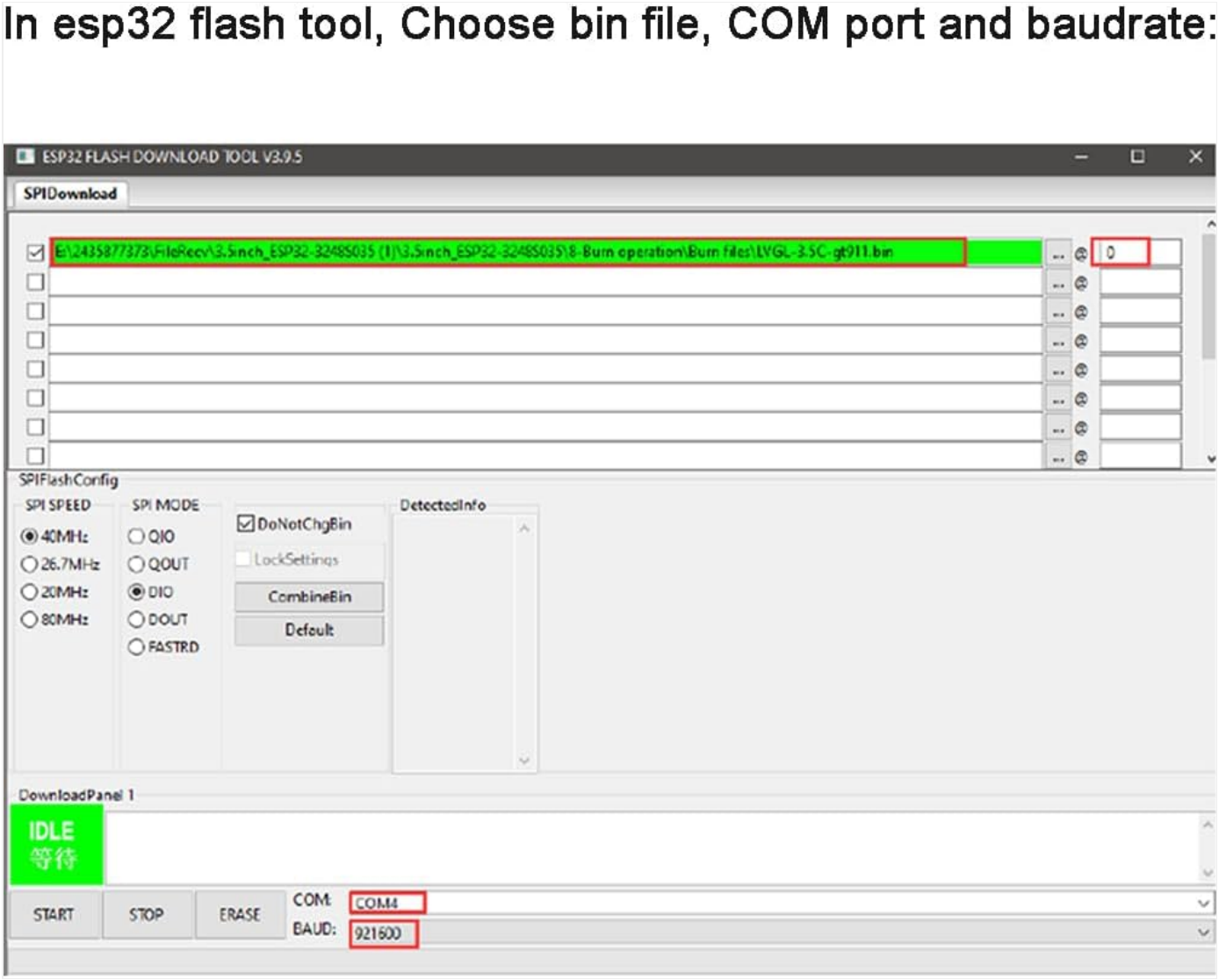


Figure 6: Screenshot of the ESP32 Flash Download Tool interface, showing where to select the binary (.bin) file, the communication port (COM), and the baud rate for flashing firmware onto the ESP32-3248S035C module. Correct settings are essential for a successful flash operation.

In the ESP32 Flash Download Tool, select the appropriate binary file, choose the correct COM port, and set the baud rate. A common baud rate is 921600, but if you encounter issues, a lower value may be necessary.

4. Operating Instructions

4.1 Capacitive Touchscreen Operation

The ESP32-3248S035C features a capacitive touchscreen, allowing for multi-touch gestures and precise input. Interact with the display using your finger, similar to a smartphone screen.

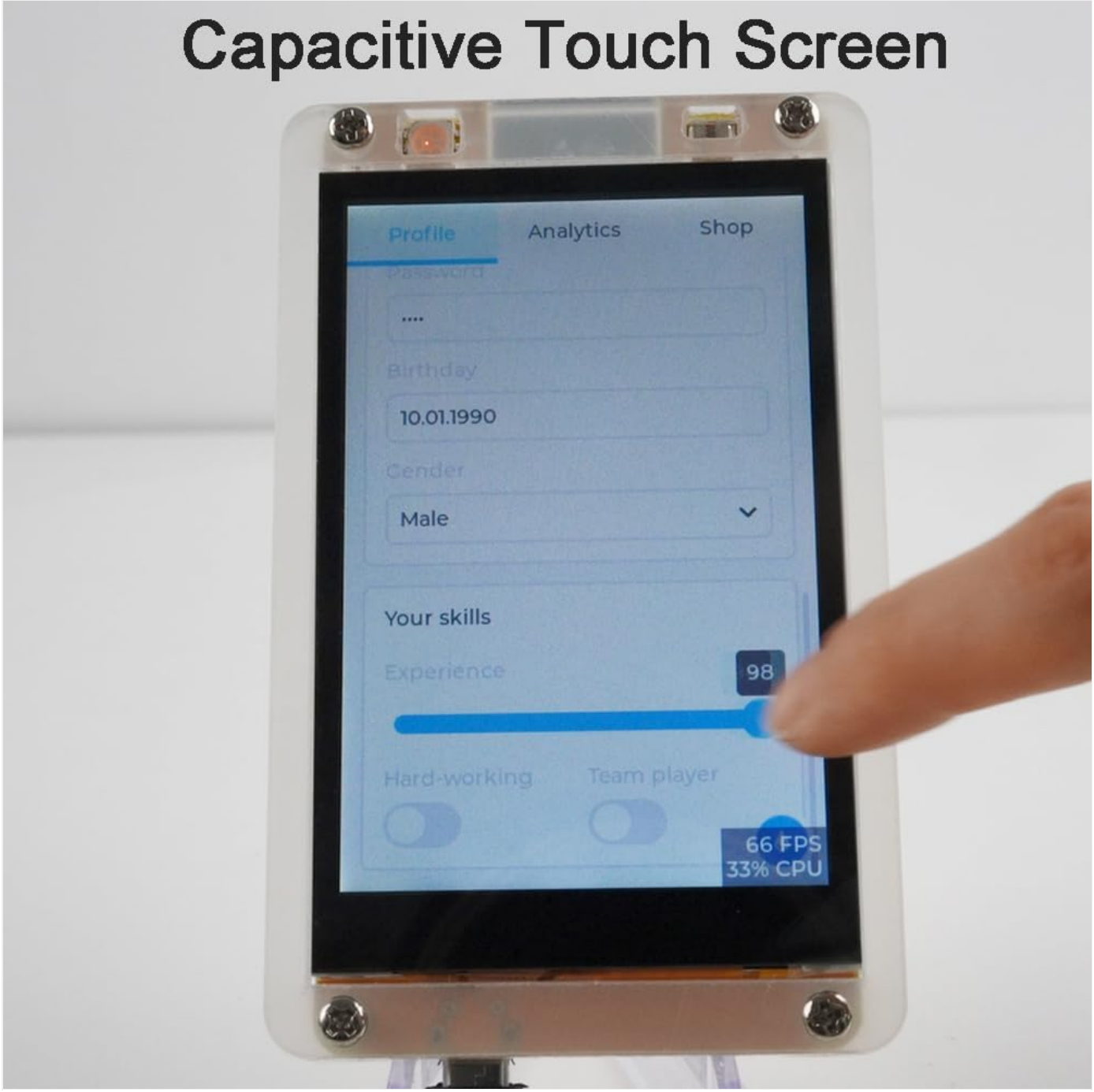


Figure 7: A hand demonstrating interaction with the capacitive touchscreen. The screen displays a user interface with various elements like text input fields, sliders, and buttons, showcasing the responsiveness of the touch functionality.

The capacitive touch screen is more flexible and responsive than resistive versions, providing a smoother user experience for applications requiring direct interaction.

4.2 Demonstration Videos

Your browser does not support the video tag.

Video 1: This video demonstrates the capacitive touchscreen functionality of the DIYmalls 3.5-inch ESP32 module with its case. It shows various interactions with a graphical user interface, including scrolling, typing, and selecting options, highlighting the responsiveness and clarity of the display.

Your browser does not support the video tag.

Video 2: A brief demonstration of the DIYmalls 3.5-inch ESP32 Capacitive Touch LCD module, focusing on the rear view of the board within its case. This video provides a quick look at the physical assembly and the overall compact design.

Your browser does not support the video tag.

Video 3: This video showcases the front view of the DIYmalls 3.5-inch ESP32 Display with its acrylic case. It offers a clear perspective of the display's appearance

and how it fits within the protective enclosure.

5. Maintenance

To ensure the longevity and optimal performance of your ESP32-3248S035C module, follow these maintenance guidelines:

- Keep the module in a clean, dry environment, away from dust and moisture.
- Avoid exposing the module to extreme temperatures or direct sunlight.
- Clean the touchscreen gently with a soft, lint-free cloth. Do not use abrasive cleaners or solvents.
- Ensure proper ventilation if the module is enclosed in a custom housing.

6. Troubleshooting

If you encounter issues with your ESP32-3248S035C module, consider the following common solutions:

- **Power Issues:** Ensure the module is powered by a stable 5V source, preferably a dedicated charger, not a PC USB port.
- **Upload Errors:** If code upload fails in Arduino IDE or ESP32 Flash Tool, try a lower baud rate (e.g., 115200 instead of 921600). Verify the correct board and COM port are selected.
- **Display Not Working:** Check all connections, especially the display ribbon cable. Ensure the module is receiving adequate power.
- **Touchscreen Unresponsive:** Verify that the correct touch library is installed and initialized in your code. Ensure the display is clean and free from obstructions.
- **Software/Firmware:** Refer to online resources and community forums for specific code examples and troubleshooting tips related to the ESP32-3248S035C or similar ESP32 display modules (e.g., search for "ESP32-2432S028R" for general guidance).

For further assistance, please contact DIYmalls customer support.

7. Specifications

Feature	Detail
Brand	DIYmalls
Model Name	ESP32-3248S035C
Display Size	3.5 inches
Resolution	480x320 pixels
Touch Panel Type	Capacitive
Driver Chip	ST7796
Operating Voltage	5V
Connectivity	USB (Micro USB)
Item Weight	5.3 ounces
Package Dimensions	7.09 x 5.91 x 1.57 inches

Feature	Detail
Color	Yellow (PCB)



Figure 8: Dimensional drawing of the ESP32-3248S035C module with its acrylic case, indicating a length of 102mm and a width of 65mm, along with a thickness of 13.5mm. This provides precise measurements for integration into projects.

8. Warranty and Support

8.1 Warranty Information

This product is covered by a standard 30-day return policy for refund or replacement. For specific warranty details, please refer to the purchase platform or contact DIYmalls directly.

8.2 Customer Support

For technical assistance, troubleshooting, or any inquiries regarding your DIYmalls ESP32-3248S035C module, please visit the official DIYmalls store on Amazon or contact their customer service team. You can often find additional resources, tutorials, and community support by searching for "ESP32-2432S028R" online, as this module shares similarities with other ESP32 display boards.

DIYmalls Store: Visit DIYmalls Store on Amazon

© 2025 DIYmalls. All rights reserved.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question