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> [NEXTION NX8048K050 5-Inch Enhanced HMI Display User Manual](#)

NEXTION NX8048K050

NEXTION NX8048K050 5-Inch Enhanced HMI Display User Manual

Model: NX8048K050

1. INTRODUCTION

This manual provides detailed instructions for the setup, operation, and maintenance of your NEXTION NX8048K050 5-inch Enhanced Human Machine Interface (HMI) display. The NX8048K050 is designed to simplify the development of graphical user interfaces for various embedded systems, including microcontrollers and single-board computers like Raspberry Pi and Arduino. It features a 5-inch resistive touchscreen and integrated memory for storing GUI elements.

2. PRODUCT OVERVIEW

2.1 Key Features

- 5.0-inch resistive touchscreen display.
- Integrated memory for GUI data storage.
- Supports graphical user interface (GUI) development using the NEXTION Editor software.
- Compatible with various microcontrollers and single-board computers via serial communication.
- Enhanced series for improved performance and features.

2.2 Package Contents

Verify that all items are present in your package:

- NEXTION NX8048K050 HMI Display
- Connection Cable (typically a 4-pin serial cable)
- (Optional) Power Supply Adapter

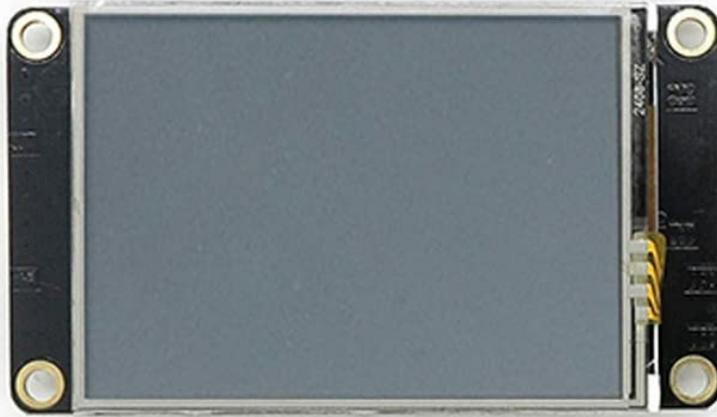


Figure 1: The NEXTION NX8048K050 5-inch Enhanced HMI Display. This image shows the front view of the display module, highlighting its screen and general form factor.

3. SETUP

3.1 Hardware Connection

- 1. Identify Ports:** Locate the serial communication port (typically a 4-pin header) on the back of the NEXTION display. This port usually includes VCC (power), GND (ground), RX (receive), and TX (transmit) pins.
- 2. Connect to Host Device:** Using the provided connection cable, connect the display to your host microcontroller or single-board computer (e.g., Arduino, Raspberry Pi). Ensure correct pin mapping:
 - Display VCC to Host 5V/3.3V (check display specifications for voltage compatibility).
 - Display GND to Host GND.
 - Display RX to Host TX.
 - Display TX to Host RX.
- 3. Power Supply:** Connect a suitable power supply to your host device. The NEXTION display will typically draw power from the host device via the VCC and GND connections. Ensure the power supply can provide sufficient current for both the host and the display.

3.2 Software and Firmware Installation

1. **Install NEXTION Editor:** Download and install the official NEXTION Editor software on your computer from the manufacturer's website. This software is used to design your GUI and compile it into a .tft file.
2. **Upload GUI Firmware:**
 - Design your desired interface in the NEXTION Editor.
 - Compile the project to generate the .tft firmware file.
 - Save the .tft file to a microSD card.
 - Insert the microSD card into the display's card slot (if available, or use a USB-to-TTL adapter for direct upload).
 - Power on the display. The firmware update process will begin automatically.
 - Once the update is complete, power off the display, remove the microSD card, and then power it back on.

4. OPERATING INSTRUCTIONS

4.1 Basic Operation

- **Power On:** Once connected and powered, the display will show the loaded GUI.
- **Touch Interaction:** Interact with the on-screen elements (buttons, sliders, text fields) using the resistive touchscreen.
- **Serial Communication:** The display communicates with your host device via serial commands. When a touch event occurs or a value changes on the display, it sends corresponding data to the host. Conversely, the host can send commands to update elements on the display.

4.2 Interfacing with Host Microcontroller

To effectively use the NEXTION display, your host microcontroller (e.g., Arduino, ESP32, Raspberry Pi) needs to be programmed to send and receive serial data. Libraries are often available for popular platforms to simplify this communication.

- **Sending Commands:** Use the serial port on your host to send commands to the NEXTION display. These commands typically follow a specific protocol defined by NEXTION to update text, change page, or modify component properties.
- **Receiving Data:** Configure your host to listen for incoming serial data from the NEXTION display. This data indicates user interactions or internal display events.

5. MAINTENANCE

5.1 Cleaning the Display

- Gently wipe the screen with a soft, lint-free cloth.
- For stubborn smudges, slightly dampen the cloth with water or a screen-safe cleaning solution. Avoid harsh chemicals or abrasive materials.
- Ensure the display is powered off before cleaning.

5.2 Storage

Store the display in a cool, dry place away from direct sunlight and extreme temperatures. Protect it from dust and physical impact when not in use.

6. TROUBLESHOOTING

Display does not power on:

- Check all power connections. Ensure the host device is powered and providing sufficient voltage and current to the display.
- Verify the VCC and GND connections are correct and secure.

No image on screen or incorrect display:

- Ensure the GUI firmware (.tft file) has been successfully uploaded to the display.
- Check for any error messages during the firmware upload process.
- Verify the display's internal memory is not full (a common issue mentioned in reviews). Optimize your GUI project in NEXTION Editor if necessary.

Touchscreen is unresponsive or inaccurate:

- Ensure the screen is clean and free of debris.
- Resistive touchscreens require a slight press; ensure you are applying adequate pressure.
- Check for physical damage to the touchscreen layer.

Communication issues with host device:

- Verify the RX/TX connections between the display and the host are correctly cross-connected (Display RX to Host TX, Display TX to Host RX).
- Ensure both the display and the host are configured to use the same serial baud rate.
- Check your host device's code for correct serial communication setup and command parsing.

7. SPECIFICATIONS

Feature	Detail
Model Number	NX8048K050 (Item model number: 43272-2498)
Screen Size	5.0 Inches
Display Type	Resistive Touch TFT LCD
RAM Memory Installed Size	32 MB
Connectivity Technology	GPIO, USB (via adapter/programmer)
Product Dimensions (LxWxH)	1 x 1 x 1 inches (approximate, refer to datasheet for exact dimensions)
Item Weight	6.4 ounces
Manufacturer	NEXTION
ASIN	B07BL3BTM2
UPC	702795764609

8. WARRANTY AND SUPPORT

The NEXTION NX8048K050 display comes with a standard manufacturer's warranty. Please refer to the

official NEXTION website or your point of purchase for specific warranty terms and conditions.

For technical support, documentation, and community forums, visit the official NEXTION support resources. These resources often provide detailed tutorials, example code, and troubleshooting guides to assist with your projects.

Official NEXTION Store: [NEXTION Store on Amazon](#)