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› NEXTION Enhanced 4.3 inch NX4827K043 Display User Manual

NEXTION NX4827K043

NEXTION Enhanced 4.3 inch NX4827K043 Display User Manual

Model: NX4827K043 | Brand: NEXTION

1. INTRODUCTION

The NEXTION Enhanced 4.3 inch NX4827K043 Display is a Human Machine Interface (HMI) solution designed for various embedded projects. It features a 4.3-inch resistive touch screen, allowing for interactive control and data visualization. This manual provides essential information for setting up, operating, and maintaining your display.



Image 1.1: Front view of the NEXTION Enhanced 4.3 inch NX4827K043 Display.

2. PRODUCT FEATURES

- **4.3-inch Resistive Touch Screen:** Provides interactive control for user interfaces.
- **Integrated HMI Solution:** Designed for easy integration into embedded systems.
- **Enhanced Version:** Offers additional capabilities compared to basic Nextion displays, including internal data storage and improved performance.
- **Wide Compatibility:** Suitable for use with microcontrollers like Arduino, Raspberry Pi, and other single-board computers.
- **Graphical User Interface (GUI) Development:** Utilizes the Nextion Editor software for designing custom interfaces.

3. SPECIFICATIONS

Feature	Detail
Brand	NEXTION
Model	NX4827K043
Display Size	4.3 inches
Touch Type	Resistive
Memory Storage Capacity	32 MB
Memory Clock Speed	480 MHz
UPC/GTIN	702795764616
ASIN	B07BL3D5DW

4. SETUP

1. **Power Connection:** Connect the display to a stable 5V DC power source. Ensure the power supply can provide sufficient current for the display's operation.
2. **Data Connection:**
 - For direct connection to a microcontroller (e.g., Arduino, Raspberry Pi), use the appropriate serial (UART) pins.
 - If connecting to a computer via USB for programming or testing, a TTL to USB adapter is required. Ensure the adapter's jumper is set to 5V, not 3V, to provide adequate power and avoid display issues.
3. **Software Installation:** Download and install the official Nextion Editor software from the NEXTION website. This software is used to design and upload your graphical user interface to the display.
4. **Initial Firmware Upload:** Follow the instructions within the Nextion Editor to upload the initial firmware and your custom HMI project to the display. This typically involves saving the compiled .tft file to a microSD card and inserting it into the display, or direct upload via the TTL to USB adapter.

5. OPERATING

The NEXTION display operates as a smart HMI, handling graphical rendering and touch events internally. Your external microcontroller communicates with the display via serial commands to send data for display or receive touch event notifications.

- **Designing Interfaces:** Use the Nextion Editor to create pages, buttons, text fields, progress bars, and other graphical elements. Define how these elements respond to touch and how they display data.
- **Communication Protocol:** The display uses a simple serial protocol. Refer to the NEXTION documentation for specific commands to send and receive data.
- **Common Applications:**
 - **DMR Hotspots:** Displaying status, call signs, and other radio-related information.
 - **SIM Racing:** Acting as a digital dashboard for vehicle telemetry (speed, gear, lap times, tire/brake temperatures).
 - **Industrial Control:** Providing user interfaces for machinery and automation systems.
 - **Home Automation:** Creating custom control panels for smart home devices.

6. MAINTENANCE

- **Cleaning:** Use a soft, dry, lint-free cloth to clean the display surface. Avoid abrasive cleaners or solvents that could damage the screen.
- **Environmental Conditions:** Operate the display within its specified temperature and humidity ranges to ensure longevity. Avoid exposure to direct sunlight for extended periods.
- **Firmware Updates:** Periodically check the official NEXTION website for firmware updates for your display model. Updates can provide new features, performance improvements, or bug fixes.
- **Resistive Touch Screen Care:** Apply gentle pressure when interacting with the resistive touch screen. Avoid using sharp objects that could scratch or damage the surface.

7. TROUBLESHOOTING

Display shows gibberish or does not power on:

Solution: Verify the power supply voltage. The display requires 5V. If using a TTL to USB adapter, ensure its jumper is correctly set to 5V, as some adapters default to 3V. Check all power and data connections for proper seating.

Touch screen is unresponsive or inaccurate:

Solution: Ensure the screen is clean and free of debris. Recalibrate the touch screen if the option is available in your HMI project. Verify that the touch events are correctly configured in the Nextion Editor and that your microcontroller is processing them as expected.

Display does not update data from microcontroller:

Solution: Check the serial communication lines (TX/RX) between the display and your microcontroller. Ensure baud rates match on both ends. Verify that the serial commands sent from the microcontroller conform to the Nextion protocol and that the display's components are correctly named in the HMI project.

8. WARRANTY AND SUPPORT

For warranty information, technical support, and additional resources, please visit the official NEXTION website or contact their customer service. Keep your purchase receipt for warranty claims.

Note: Product specifications and features are subject to change without prior notice. Always refer to the latest documentation available from the manufacturer.