

# NX3224K028



## Overview

Nextion is a seamless Human Machine Interface (HMI) solution that provides a control and visualisation interface between a human and a process, machine, application or appliance. Nextion is mainly applied to IoT or consumer electronics field. It is the best solution to replace the traditional LCD and LED Nixie tube. With the Nextion Editor software ([Official Download](#)), users are able to create and design their own interfaces for Nextion display.

The Nextion Enhanced series are more powerful compared to the Nextion Basic series. In addition to a faster MCU clock, the Enhanced series support: built-in RTC, 1K EEPROM for user data, 8 digital GPIO, and larger Flash capacity.

Package includes: Nextion Display, connecting wire, a power supply test board.

Go Shopping: [NX3224K028 \(IM160511003\)](#)

Note: the small power supply test board and connecting wire inside the package allow you to test if the electrical supply is enough or not. See the image below on how to use it.

## Caution:

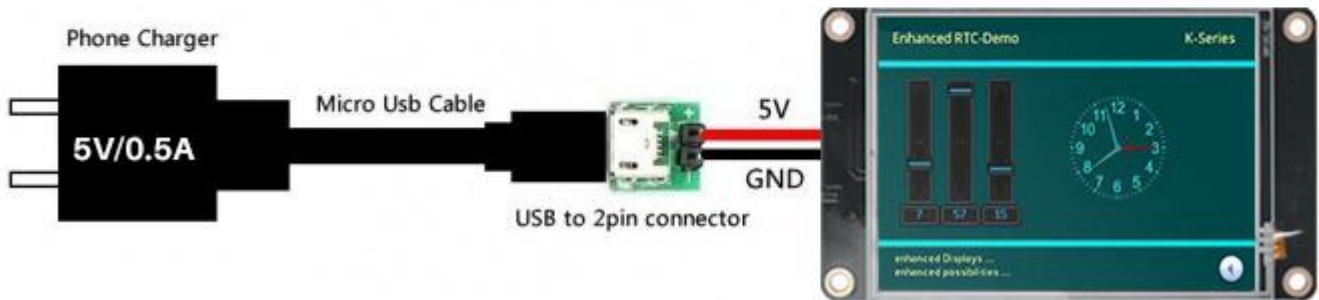
Working under insufficient power supply condition will damage the Nextion model easily.



Blurred screen? Flashing? You may be suffering from power shortages. Power off at the first possible moment. No more repeated attempts to damage your Nextion model.

A small connector is included in the package. Please try to power Nextion with your phone charger through the connector to check if Nextion works well.

A high quality usb cable is required.



## Nextion Models

|                |  |
|----------------|--|
| Nextion Type   | Enhanced Series                            |
| Nextion Models | NX3224K024_011N (N: No touch)              |
|                | NX3224K024_011R (R: Resistive touchscreen) |

## Specifications

|                              | Data                        | Description                                  |
|------------------------------|-----------------------------|--|
| Color                        | 64K 65536 colors            | 16 bit 565, 5R-6G-5B                         |
| Layout size                  | 85(L)×49.8(W)×4.35(H)       | NX3224K028_011N                              |
|                              | 85(L)×49.8(W)×5.55(H)       | NX3224K028_011R                              |
| Active Area (A.A.)           | 70.20mm(L)×49.80mm(W)       |  |
| Visual Area (V.A.)           | 57.60mm(L)×43.20mm(W)       |  |
| Resolution                   | 320×240 pixel               | Also can be set as 240×320                   |
| Touch type                   | Resistive                   |  |
| Touches                      | > 1 million                 |  |
| Backlight                    | LED                         |  |
| Backlight lifetime (Average) | >30,000 Hours               |  |
| Brightness                   | 200nit<br>(NX3224K028_011N) | 0% to 100%, the interval of adjustment is 1% |

|        |                              |  |
|--------|------------------------------|--|
|        | 180 nit<br>(NX3224K028_011R) | 0% to 100%, the interval of adjustment is 1% |
| Weight | 32g (NX3224K028_011N)        |  |
|        | 39.5g (NX3224K028_011R)      |  |

## Electronic Characteristics

|   | Test Conditions             | Min  | Typical | Max | Unit |
|---|-----------------------------|------|---------|-----|------|
| Operating Voltage                             |                             | 4.75 | 5       | 7   | V    |
| Operating Current                             | VCC=+5V, Brightness is 100% | –    | 65      | –   | mA   |
|   | SLEEP Mode                  | –    | 15      | –   | mA   |
| Power supply recommend : <b>5V, 500mA, DC</b> |                             |      |         |     |      |

## Working Environment & Reliability Parameter

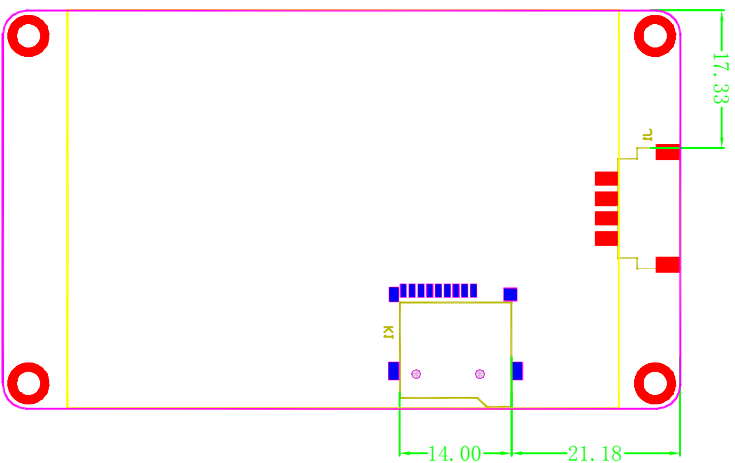
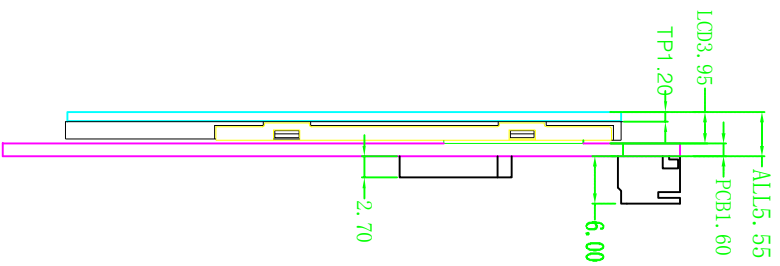
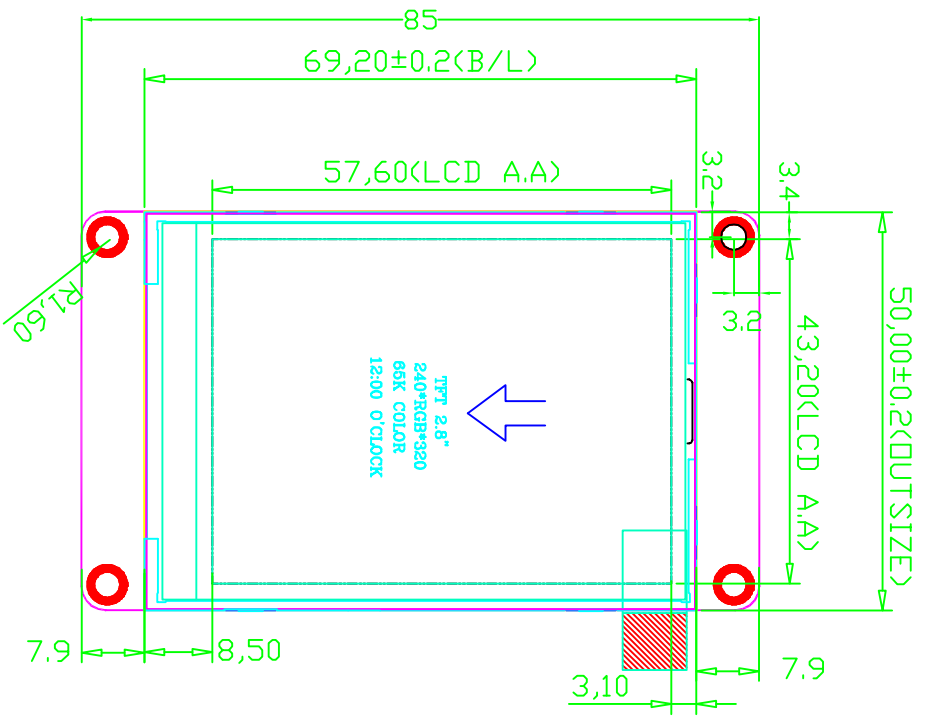
|                     | Test Conditions  | Min | Typical | Max | Unit |
|---------------------|------------------|-----|---------|-----|------|
| Working Temperature | 5V, Humidity 60% | -20 | 25      | 70  | °C   |
| Storage Temperature |                  | -30 | 25      | 85  | °C   |
| Working Humidity    | 25°C             | 10% | 60%     | 90% | RH   |

## Interfaces Performance

|                      | Test Conditions  | Min  | Typical | Max    | Unit |
|----------------------|--|------|---------|--------|------|
| Serial Port Baudrate | Standard   | 2400 | 9600    | 115200 | bps  |
| Output High Voltage  | IOH=-1mA   | 3.0  | 3.2     |        | V    |
| Output Low Voltage   | IOL=1mA  |      | 0.1     | 0.2    | V    |
| Input High Voltage   |  | 2.0  | 3.3     | 5.0    | V    |
| Input Low Voltage    |  | -0.7 | 0.0     | 1.3    | V    |
| Serial Port Mode     | TTL  |      |         |        |      |
| Serial Port          | 4Pin_2.54mm  |      |         |        |      |
| USB interface        | NO   |      |         |        |      |
| SD card socket       | Yes (FAT32 format), support maximum 32G Micro SD Card<br>* microSD card socket is exclusively used to upgrade Nextion firmware /HMI design |      |         |        |      |
| Extended IO          | 8 Digital extended GPIO  |      |         |        |      |
|                      | IO0-IO7 support input, output and component binding event  |      |         |        |      |
|                      | IO4-IO7 support PWM  |      |         |        |      |
| RTC                  | built-in RTC support (Battery type: CR1220)  |      |         |        |      |

## Memory Features

| Memory Type        | Test Conditions        | Min | Typical | Max  | Unit |
|--------------------|------------------------|-----|---------|------|------|
| FLASH Memory       | Store fonts and images |     |         | 16   | MB   |
| User Storage       | EEPROM                 |     |         | 1024 | BYTE |
| RAM Memory         | Store variables        |     |         | 3584 | BYTE |
| Instruction Buffer | Instruction Buffer     |     |         | 1024 | BYTE |



|                |     |          |       |     |
|----------------|-----|----------|-------|-----|
| PRODUCT NO.    |     | DRAW NO. |       | REV |
|                |     |          |       | A   |
| TOLERANCE:     |     |          |       |     |
| DECIMAL        |     |          |       |     |
| X±,20          |     |          |       |     |
| .XX±,20        |     |          |       |     |
| DWN            | DSN | APPD     |       |     |
| CHKD           |     |          |       |     |
| <br>$\pm 1/4"$ |     |          | SCALE | 1:1 |