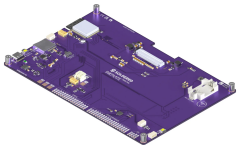
PRODUCT DATASHEET

Soldered Inkplate 7SPECTRA



333396

Inkplate 7SPECTRA is a 7.3-inch six-color e-paper board with an ESP32-S3, Wi-Fi and a battery charger, programmed from Arduino or MicroPython.

Full product documentation, files and tutorials: **solde.red/333396**

CORE ATTRIBUTES

SKU	333396
DIMENSIONS	176.2 × 117.2 × — mm
ORIGIN	HR
BARCODE	0732388628902

DESCRIPTION

Inkplate 7SPECTRA is an e-paper development board built around a 7.3-inch E Ink Spectra 6 panel with **800 × 480 pixels**. The panel shows six colors: black, white, yellow, red, blue and green. An **ESP32-S3-WROOM-1-N8R8** module on the board runs your code and drives the panel, so you need no other controller.

The ESP32-S3 runs at up to **240 MHz** with **8 MB of flash and 8 MB of PSRAM**, and it has Wi-Fi (802.11 b/g/n) and Bluetooth 5 LE. A PCF85063A real-time clock with a CR2032 holder keeps time while the board sleeps, and a microSD slot holds images and data. You power the board over USB-C or from a 3.7 V Li-ion battery on the 2-pin JST connector, and the MCP73831 charger on the board charges the battery whenever USB-C is connected. A slide switch turns the board off, and a wake-up button on IO18 brings it out of deep sleep.

Three **Qwiic** connectors put the I2C bus on the edge of the board, and a PCAL6416A expander adds 16 GPIO pins next to the free ESP32-S3 pins on the pads along the edge. The Inkplate Arduino library has an Inkplate7SPECTRA board file with examples, and the Inkplate MicroPython module supports the board as inkplate7spectra. Programming and serial go over USB-C through a CH340K. The board ships with a USB-C cable. A version with a 3D-printed enclosure and a 1200 mAh battery is sold separately.

TECHNICAL DETAILS

- **Display:** E Ink EL073TF1C8, 7.3 inch, 800 × 480 pixels, six colors (black, white, yellow, red, blue, green)
- **Update:** full-screen updates only, the driver has no partial update
- **Microcontroller:** ESP32-S3-WROOM-1-N8R8, dual-core, up to 240 MHz
- **Memory:** 8 MB flash, 8 MB PSRAM

- **Wireless:** Wi-Fi 802.11 b/g/n (2.4 GHz), Bluetooth 5 LE
- **USB:** USB-C for programming, serial and charging, CH340K USB to UART
- **Battery:** 2-pin JST connector for a 3.7 V Li-ion battery, MCP73831 charger, battery voltage measurement
- **Clock:** PCF85063A RTC with CR2032 holder
- **Storage:** microSD card slot
- **Expansion:** 3 Qwiic (I2C) connectors, PCAL6416A 16-pin GPIO expander, ESP32-S3 GPIO pads
- **Controls:** on/off slide switch, wake-up button (IO18), reset button
- **Board size:** 176.2 × 117.2 mm
- **Programming:** Arduino IDE (Inkplate library), MicroPython (Inkplate module)
- **In the box:** board with panel, USB-C cable

SPECIFICATIONS

DISPLAY SIZE (INCH)	7.3 inch
DISPLAY RESOLUTION W	800
DISPLAY RESOLUTION H	480
DISPLAY COLOR	Color
FRONTLIGHT	No
TOUCH SUPPORT	None
MCU PART NUMBER	ESP32-S3-WROOM-1-N8R8
MCU CLOCK (MHZ)	240 MHz
WIFI	Wifi4
BLUETOOTH	Ble 5
QWIIC COMPATIBLE	Yes
SD CARD SLOT	Yes
BATTERY INCLUDED	No
BATTERY CONNECTOR	Jst 2Pin
DEV ENVIRONMENTS	Arduino IDE, MicroPython
HAS ENCLOSURE	No
RTC ONBOARD	Yes

LINKS

MicroPython Module	https://github.com/SolderedElectronics/Inkplate-micropython
Arduino Library	https://github.com/SolderedElectronics/Inkplate-Arduino-library
Arduino Library Documentation	https://github.com/SolderedElectronics/Inkplate-Arduino-library/tree/master/examples/Inkplate7SPECTRA

Pinout	https://cms.soldered.com/products/333396/media/333396_pinout-png_650ce1.png

GALLERY

