seeed studio

INDUSTRIAL PRODUCT DATASHEET

SenseCAP Indicator D1L, 4-Inch Touch Screen IoT development platform powered by ESP32S3 & RP2040

The SenseCAP Indicator D1L is a 4-inch touch screen IoT development platform with ESP32S3 and RP2040, offering Wi-Fi/BLE/LoRa® connectivity, built-in environmental sensors, and open-source extensibility for diverse IoT applications.

SKU	UPDATED	PRICE
114993070	2026-07-30 08:32:10	$59.00(Excl. VAT)



Overview



The SenseCAP Indicator D1L is a 4-inch touch screen IoT development platform powered by ESP32S3 and RP2040 dual-MCUs, featuring rich Grove-compatible GPIOs, optional Semtech SX1262 LoRa® connectivity, and built-in tVOCs and CO2 sensors for air quality monitoring. It supports a wide range of applications including air quality monitoring, smart home assistants, and third-party platform integration (AWS, ChatGPT, Matter, etc.) with full open-source flexibility and one-stop ODM fusion service for customization.

Key Features

Note

SenseCAP Indicator has FCC, CE, RoHS, and REACH certifications for all models (D1, D1S, D1L, D1Pro), and TELEC certification formal certificate for D1, D1S versions. Please download the certificate **here**.

For big quantity orders please contact **iot@seeed.cc**.

SenseCAP Indicator is a 4-inch touch screen driven by ESP32 and RP2040 dual-MCU and supports Wi-Fi/BLE/LoRa® communication.

The board comes with Type-C and Grove interfaces, supports ADC and IIC transmission protocols, and can easily connect to other peripherals with rich GPIOs.

SenseCAP Indicator is a fully open-source powerful IoT development platform for developers. One-stop ODM Fusion service is also available for customization and quick scale-up.

- **Dual MCUs and Rich GPIOs:** Equipped with powerful ESP32S3 and RP2040 dual MCUs and over 400 Grove-compatible GPIOs for flexible expansion options.
- **Local LoRa® Hub for IoT Connectivity:** Integrated Semtech SX1262 LoRa® chip (optional) for connecting LoRa® devices to popular IoT platforms such as Matter via Wi-Fi, without the need for additional compatible devices.
- **Fully Open Source Platform:** Leverage the extensive ESP32 and Raspberry Pi open-source ecosystem for infinite application possibilities.
- **Fusion ODM Service Available:** Seeed Studio also provides one-stop ODM service for quick customization and scale-up to meet various needs.

Product Gallery











Specification

Screen	3.95 Inch, Capacitive RGB Touch Screen
Screen Resolution	480 x 480 pixels
Power Supply	5V DC, 1A

Battery	N/A
Processor	ESP32-S3: Xtensa® dual-core 32-bit LX7 microprocessor, up to 240MHz RP2040: Dual ARM Cortex-M0+ up to 133MHz
Flash	ESP32S3: 8MB RP2040: 2MB
External Storage	Support up to 32GB Micro SD Card (not included)
Wi-Fi	802.11b/g/n, 2.4GHz
Bluetooth	Bluetooth 5.0 LE
LoRa®(SX1262)	LoRa®WAN/(G)FSK, 21dBm Max Transmitted Power Sensitivity/-136dBm@SF12 BW=125KHz RX Sensitivity, Up to 5km (depending on gateway antenna and environments)
Buzzer	MLT-8530, Resonant Frequency：2700Hz

Hardware Overview

Model	D1	D1S	D1L	D1Pro
tVOC sensor	/	◉	/	◉
CO2 sensor	/	◉	/	◉
Grove TH Sensor	/	◉	/	◉
LoRa (SX1262)	/	/	◉	◉
Wi-Fi	◉	◉	◉	◉
Bluetooth	◉	◉	◉	◉

Applications

- **Desktop Air Quality Detector:** There are built-in tVOCs and CO2 sensors, and a Grove TH sensor is provided to connect externally to reduce heat interference to get more accurate temperature and humidity results.
- **Customizable Display Style:** Customize one of your own styles.
- **LoRa Hub for Matter over Wi-Fi:** Build a LoRa® hub device to connect your local LoRa® sensors to your smart home ecosystem to implement Matter over Wi-Fi.
- **Air Quality Monitor**
- **Weather Station Display**
- **Sensor Data Dashboard**
- **Smart Home Assistant**
- **Mini Sensor Hub**
- **Stock Price Indicator**
- **Digital Album**
- **Standard Operation Procedure Reminder**
- **Third-Party Platform Integration:** Develop various exciting applications integrating with third-party platforms, such as AWS / ChatGPT / Matter / NodeRED / IoTex ...

Part List

SenseCAP Indicator	x1
USB Type-C Cable (1m)	x1
Grove AHT20 TH Sensor (For D1S and D1Pro version)	x1

Compliance & Logistics



HSCODE	8517180050
USHSCODE	8531200020
UPC	
EUHSCODE	8543709099
COO	CHINA

FCC Requirement

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

15.21

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy.

If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Resource Links

- https://www.seeedstudio.com/SenseCAP-Indicator-D1L-p-5646.html

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