![wappsto by Seluxit]

Wappsto:bit

Making IoT Child's Play

bit.wappsto.com

What is Wappsto:bit?

Wappsto:bit is an extension board for the BBC micro:bit with a pre-configured and out-of-the-box connection to Wappsto Cloud using either 5G, NB-IoT or Wi-Fi. after the setup, the wappsto:bit sensor data can be accessed through the Wappsto Dashboards of the mobile app.

Wappsto Cloud is a powerful IoT Platform for hardware connectivity, automation, and advanced data visualizations. Wappsto comes with various integrated services, such as weather, calendars, smart home appliances, etc.

Wappsto Dashboards is a data visualization and data management tool.

Wappsto mobile app offers easy Wi-Fi setup on your IoT devices, quick access and control of your data on the go. Supported on Android and iOS.
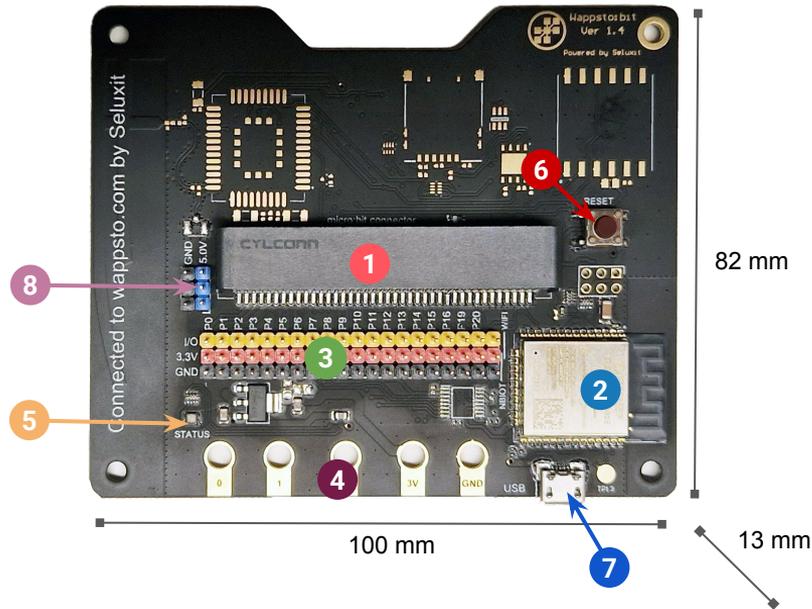
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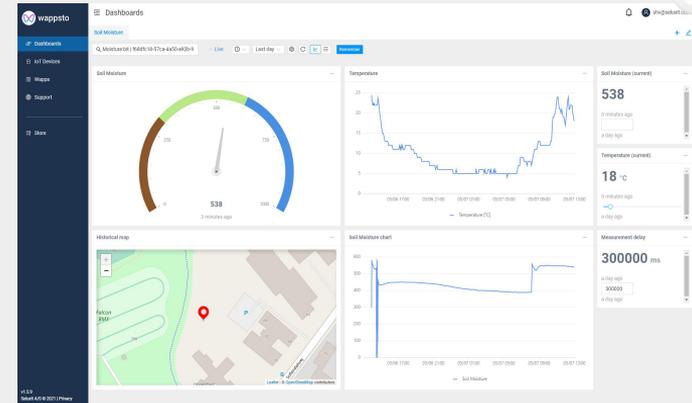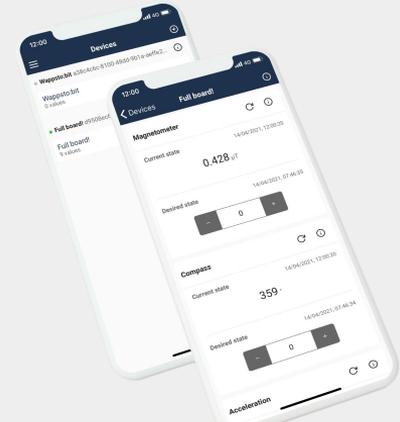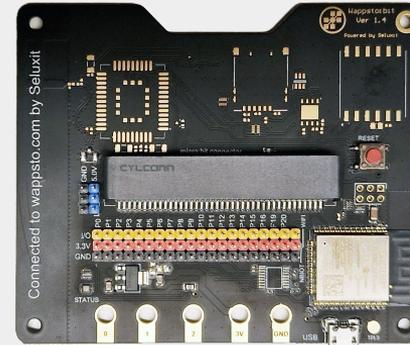
In the box

Item	Quantity	Image
Wappsto:bit in an antistatic bag	1	
USB Micro-B cable	1	
Rubber self-adhesive pads	4	

Hardware Specification
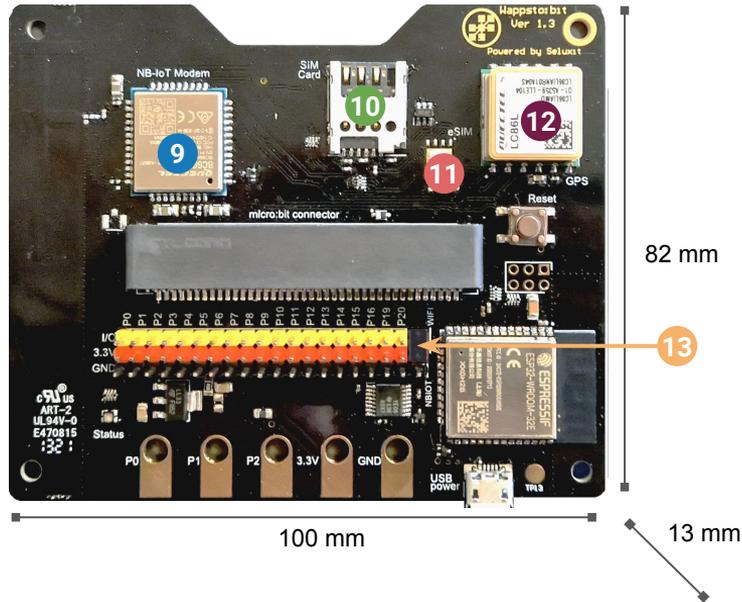
All Wappsto:bit Models

1 Edge-connector for micro:bit

2 ESP32-WROOM-32E, Wi-Fi and Bluetooth module with built-in antenna

3 Fully populated pin headers from micro:bit GPIO pins. yellow = IO, red = 3.3V, black = GND

4 Croc-clip connections, micro:bit IO pins 0, 1 and 2, 1x 3.3V output and 1x GND

5 Status LED, for indication of a connection to Wappsto by Seluxit

6 Reset button, for resetting Wi-Fi network settings and cloud connectivity

7 Micro USB power supply (4.5 - 5.5V)

8 5.0V output and GND*
blue = 5.0V, black = GND

* available in Wappsto:bit version 1.4

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Hardware Specification

Wappsto:bit NB-IoT and NB-IoT+

100 mm

82 mm

13 mm

Wappsto:bit NB-IoT and NB-IoT+ models have additional components

9 Quectel BC66-NA NB-IoT Modem
Antenna optimized for:
- Narrowband IoT (LTE Cat NB1)
- Band B3 : Uplink 1710-1785 Mhz, Downlink 1805-1880 MHz
- Band B20: Uplink 832-862 Mhz, Downlink 791-821 MHz

10 SIM card slot

11 eSIM

12 Quectel L86 GPS Module (only in NB-IoT+)

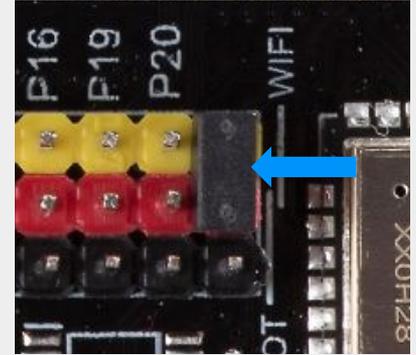**13** Wi-Fi hard wired jumper for switching between Wi-Fi and NB-IoT modes

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Connectivity Modes

Wappsto:bit NB-IoT and NB-IoT+

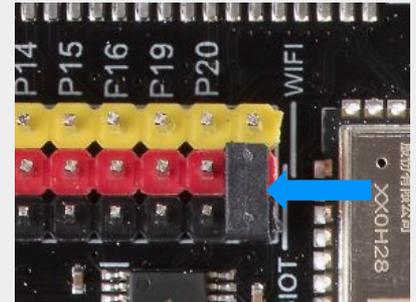You can change connectivity mode by moving the jumper as shown in the images.
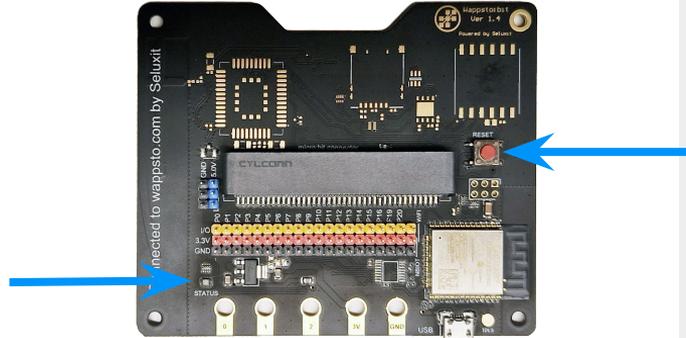
Wi-Fi mode

YELLOW and RED pins

NB-IoT mode

RED and BLACK pins

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STATUS LED

- ● Off
- ● Starting
- ● Bluetooth on
    - – in Wi-Fi mode: Ready for Wi-Fi setup
    - – in NB-IoT mode: Connecting
- ● Connected to Wappsto
- ● Updating firmware

RESET BUTTON

Resetting your Wappsto:bit, means removing it from Wappsto Cloud and user account. It also resets the existing Wi-Fi network configuration. The program running on your micro:bit will remain.

To reset Wappsto:bit

1. Power on the Wappsto:bit.
2. Press the button called "Reset" found on the right side of the Wappsto:bit.
3. The Status LED will start blinking white, keep the button pressed down until the blinking stops.

    The Wappsto:bit has been reset.

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Using the Wappsto:bit
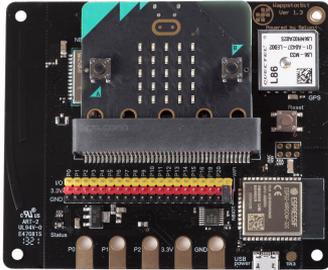
1 Make sure both Wappsto:bit and micro:bit are powered off before connecting them together.

2 Insert the micro:bit firmly, with the LEDs and buttons facing outwards from the Wappsto:bit.

IMPORTANT

➔ Avoid wet environments

➔ Avoid dropping the Wappsto:bit or hitting it

➔ It is not possible to power the Wappsto:bit through the micro:bit

➔ It is not possible to program the micro:bit through the Wappsto:bit

➔ Use the rubber self-adhesive pads included in the package. Stick them on the back side of your wappsto:bit to avoid scratching the surfaces or short-circuiting the device when placed on a metal surface

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External Sensors

Wappsto:bit will work with all 3.3V sensors compatible with the BBC micro:bit.
You can also use 5.0V sensors* as long as you connect them into blue connector row, instead of the red one.

Pin headers on the Wappsto:bit correspond 1:1 with the [BBC micro:bit pin layout](#).

For further details, here are some project examples using external sensors:
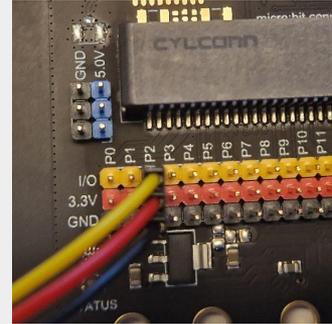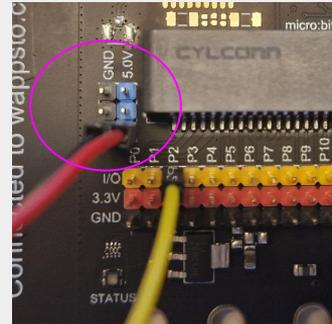
[Soil Moisture](#)
[Indoor Climate](#)
[Air Pressure](#)

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* 5.0V connector row is available in Wappsto:bit version 1.4

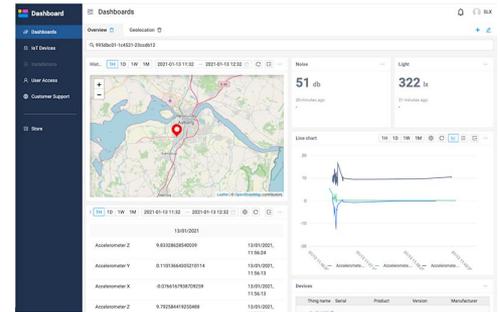**Attaching 3.3V sensor**

Attaching 5.0V sensor*

Getting started

①

Setup and registration

②

Programming micro:bit and using it with Wappsto:bit

③

Accessing data in wappsto.com

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1

Setup
and registration

For more detailed step-by-step go to:
https://bit.wappsto.com/setup

1) Create an account in Wappsto
- iOS: Apple App Store
- Android: Google Play
- Web browser: https://wappsto.com

2) Register your Wappsto:bit
- Log in with your Wappsto account
- Click the plus icon (⊕) to add a new device
- Follow the guide in the app to register the device in the cloud, and configure Wi-Fi (if applicable)

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Programming micro:bit and using it with Wappsto:bit

Coding on Microsoft MakeCode in the browser:
1. Enter the Microsoft MakeCode Website
   - [Microsoft MakeCode for micro:bit](#)
2. Start or open a project and name it
3. In the top right corner, press the settings cogwheel
4. Press Extensions
5. Search for **Wappsto**
6. Click and download the extension
7. Start coding! You can find examples in the Wappsto:bit Academy
8. Upload code to your micro:bit

Plug your micro:bit into the Wappsto:bit:
1. Ensure the Wappsto:bit is set up
2. Make sure your Wappsto:bit is unplugged from its power source
3. Insert the micro:bit into the Wappsto:bit facing outwards (LEDS towards you)
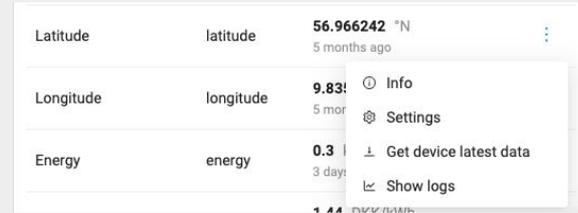4. Plug your Wappsto:bit into its power source and let it boot

Congratulations, you can now access your data on Wappsto!

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③

Accessing data in
wappsto.com

Go to the IoT Devices page:

1. Click the name of your Wappsto:bit, and then click on your sensor name in the unfolded section you will see the current state of the sensor.
2. To see historical data in a chart view, click the menu button (...) on the right side of your sensor name. Select "**Show logs**"
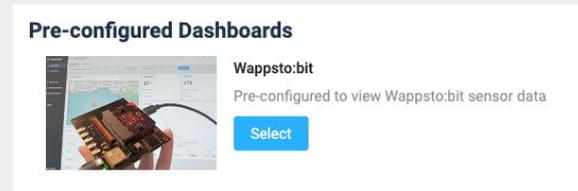

Go to the Dashboards page

1. On the right side, press the menu button to **Add a new dashboard**
2. Choose a template e.g. **Wappsto:bit** or a **blank** Dashboard to create a new dashboard
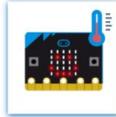3. Configure widgets to show historical logs or Wappsto:bit current data

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Projects

You can find a lot of fun projects using the Wappsto:bit for different difficulty levels.

https://bit.wappsto.com/wappsto_projects

Wappsto Pricing

We've got you covered! You start with a Free subscription plan

You will get **1,000,000 data points** every **month**. Based on your usage they will be distributed between storage and traffic.

What if I run out of data points?

If you run out of data points, we'll stop the flow for you.
Then you can either wait until next month for data point renewal or purchase additional. All our plans offer a set of essential features and fast connectivity.

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https://www.seluxit.com/privacy

Norms and Certificates

EU Declaration of Conformity

EU Type Examination Certificate

Appendix of a Type Examination Certificate

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Data and Safety

One email to rule it all
When you sign up for free Wappsto services, all you need to share is an email address.
If you wish to upgrade your account, our payment partners will of course need to know a bit more about you.'

Nothing shared without your consent and it's all anonymised
If you wish to engage with other users on Wappsto and perhaps share your data, everything is done using unique identifiers (UUID), meaning your identity will be kept anonymous. And you can always withdraw your sharing consent.

At Seluxit we are serious about data security and Data Ethics

Read more about our data ethics principles on
https://www.seluxit.com/data

Read more about your data privacy on
https://www.seluxit.com/privacy

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