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IoTin Specifications



Mechanical Characteristics

board dimension : 100 * 65 mm



ESP32 Series Micro Controller Features:

Xtensa® dual-core 32-bit LX6 microprocessor

WiFi 802.11 b/g/n

Bluetooth v4.2 BR/EDR and Bluetooth LE

448 KB ROM

520 KB SRAM

4MB external flash memory for firmware and data

PWM up to 16 channels

3 × UART

2 × I2C

2 × I2S

4 × SPI

2 × 8-bit DAC

12-bit SAR ADC up to 18 channels



CH340 USB to
Serial interface



MU 1dof



inm441 16 bit mems
microphone



lithium polymer
battery charger

**added
hardware
features**



dht22 temperature
& humidity sensor



6 × relay with max
240V/5A AC or
30V/5A DC

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Features:

Auto start secure HTTPS web-server with uniquely self-signed SSL certificate for end-to-end encryption with the IoTin app

A

Auto start database connection for data logging to MySQL server

C

B

API and documentation for C++ compatible boards to connect to IoTin board via Serial port and communicate directly to the smartphone app

D

Auto WiFi and network maintenance



SDK Features:

Auto start database connection for data logging to MySQL server

E

Uniquely assigned and unerasable authentication codes to each board

G

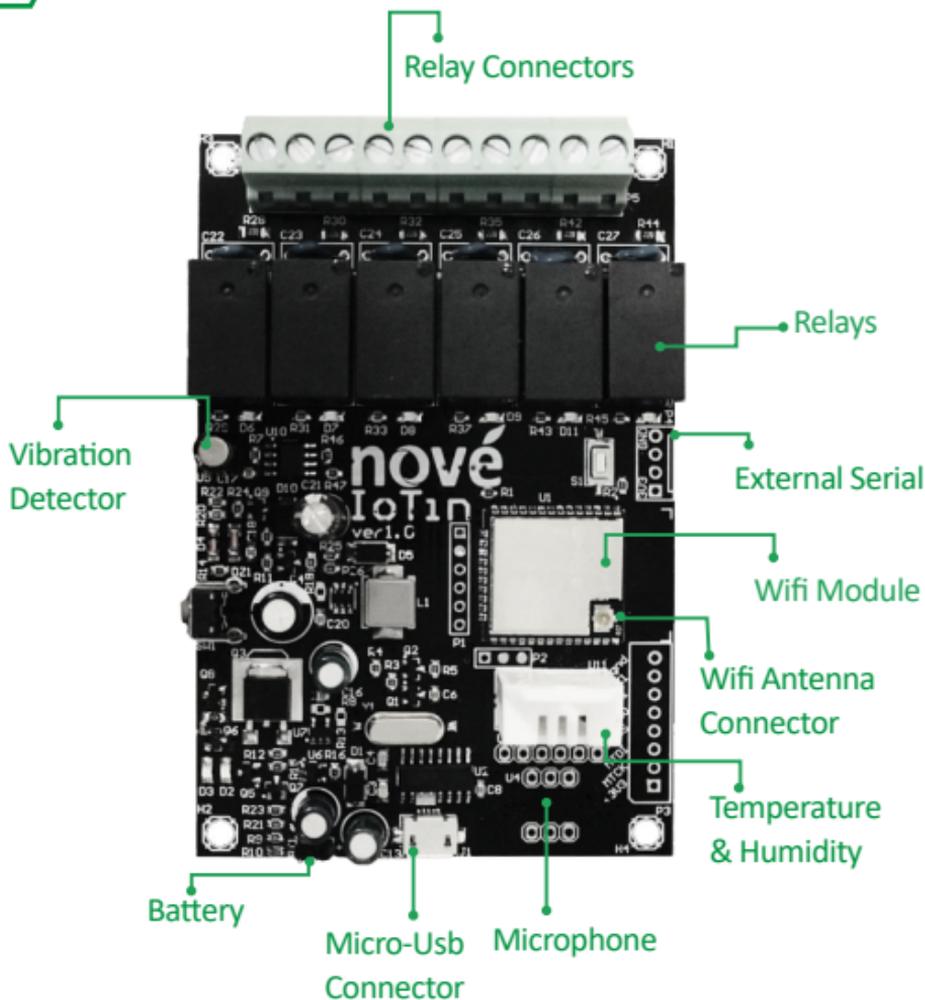
F

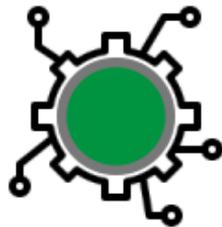
Auto time update via online NTP servers and precise time tracking (accuracy 0.01%) in offline scenarios

H

Over the internet audio logging capability

Package Info





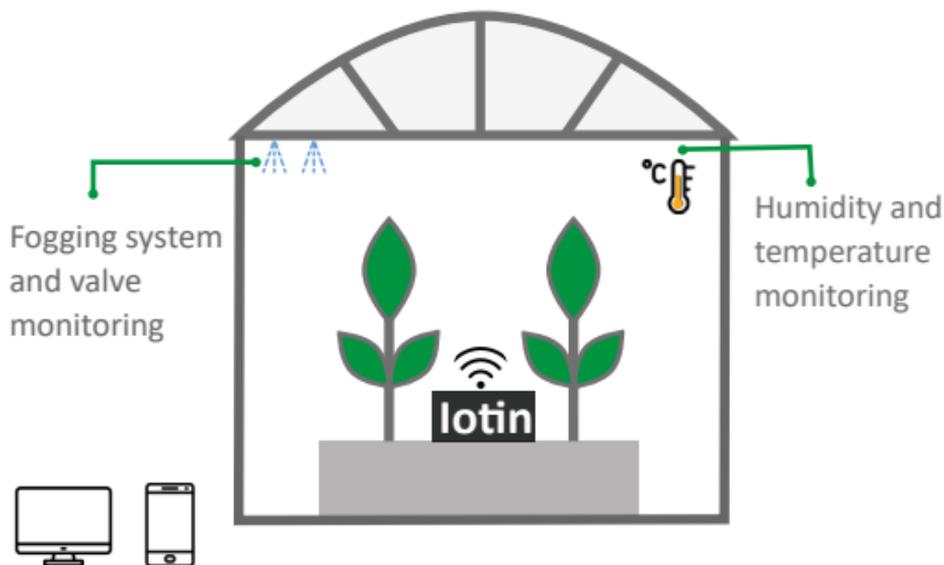
Application of Iot in

SMART GREENHOUSE



With the onboard sensor you can monitor temperature and humidity of a greenhouse. besides, you can control (on/off) 5 different actuators such as watering valves, fogging system, fan, lights and etc.

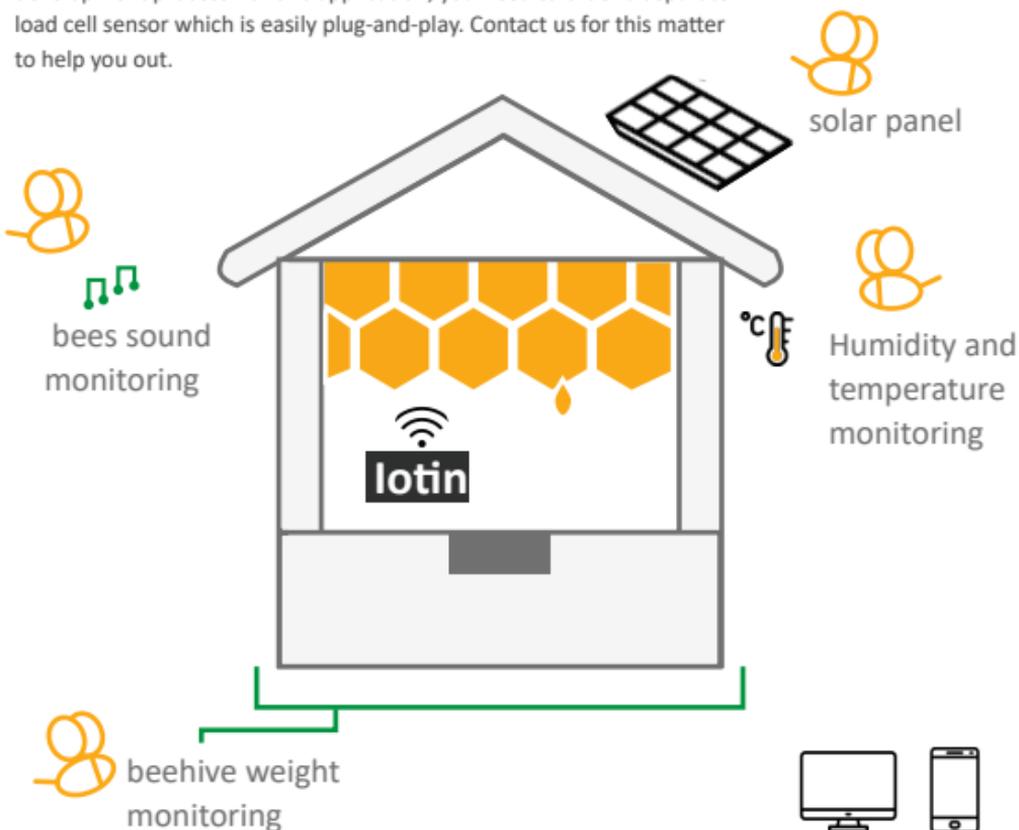
in addition, with the event handling feature of the Iot in, you can set several events, in terms of week days and time; for instance, opening the watering valve at specific times of days.



Smart beehive

Are You Interested To Know What Is Going On Inside Your Beehives?!

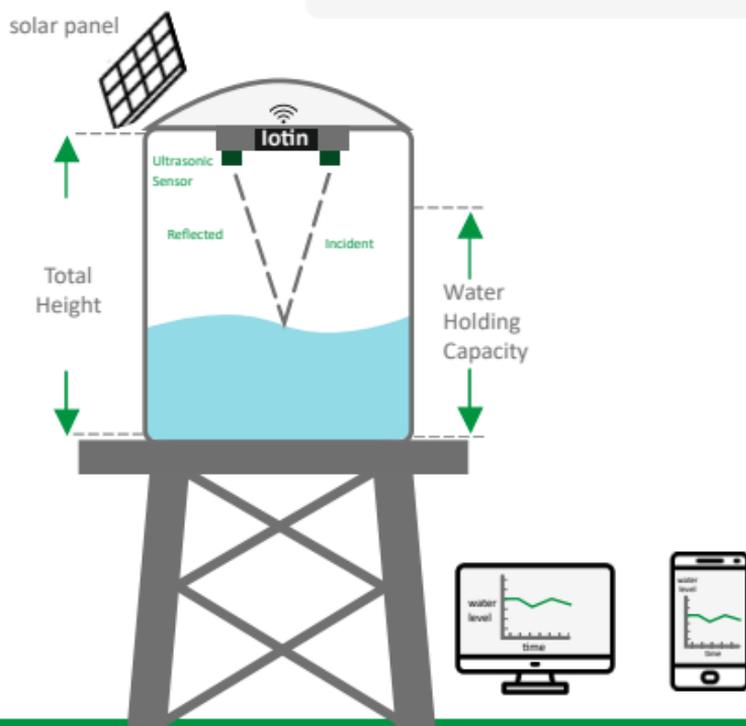
There comes iotin to bring the beehive status and signals at your hand! with iotin installed at the beehive entrance, you can listen to the bee sounds at anywhere you are! not only that, but you can also observe the beehive weight over time to get to know about the honey development process. for this application, you need to order a separate load cell sensor which is easily plug-and-play. Contact us for this matter to help you out.



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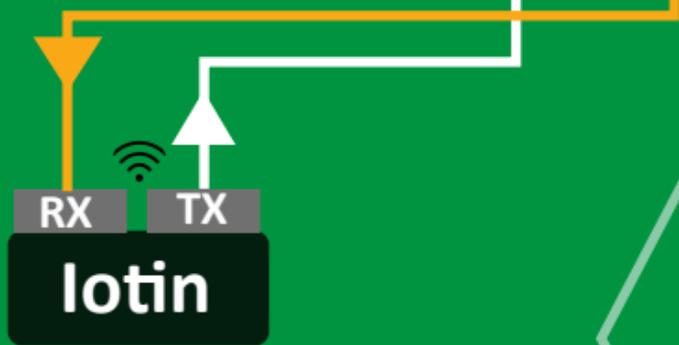
IoT based water level monitoring

With the iotin platform you can measure and monitor the water level inside a water tank on your mobile phone. Not only that, the iotin platform logs the data into the cloud so that you can analyze the water usage.



External device monitoring

With iotin platform you can monitor&control other devices. you only need to connect the iotin board to your board via serial port (tx&rx). With a simple-to-use iotin sdk you can communicate with the external device in a handy way.



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Car and bicycle tracker



With tracking capability of the lotin board, you can monitor location of your belongings via app, wherever you are!



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Mobile App For Iotin

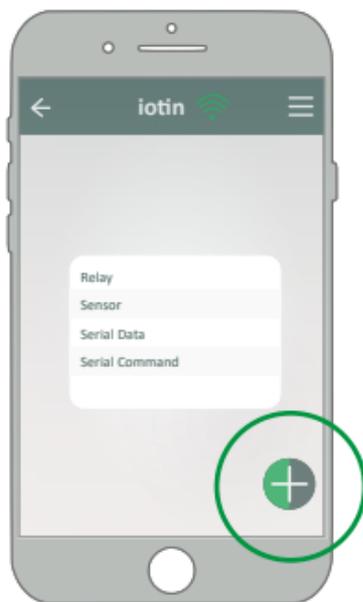


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HOW TO USE APP



Top + to add sensor or actuator.

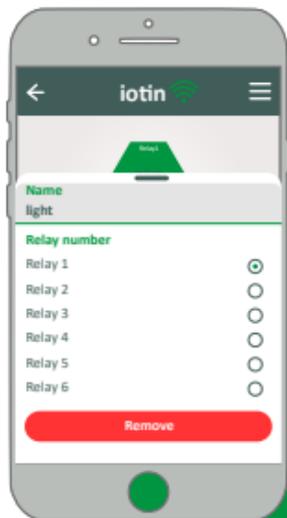


B

If you add a relay, a push button appears on the screen where you can tap on to control the relay on the board.

**C**

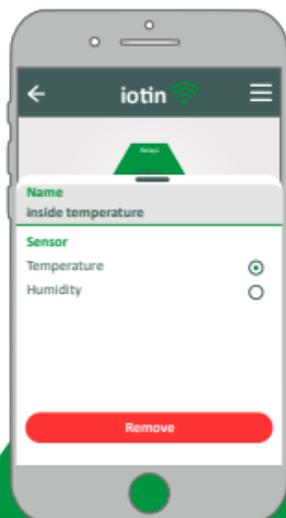
You can specify which relay on the board is assigned to this push button. you can also rename the button so that you recognize which device is connected to this relay.



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If you add the board sensor, you can select which data to show: Humidity and Temperature.



You can add several cells for different relays and sensors. if you have an external device connected to the iotin board, the data you want to send or read can be easily communicated through the given json protocol in the sdk. so you can have several cells to monitor and control the external device. commands can be On/OFF or pwm signals.

F

From the setting menu, you can rename the wifi ssid of the iotin board and config the board to connect to your wifi network. the iotin info such as firmware version and other information can be seen from this menu.



For more information please take a look at the instruction manual  video.