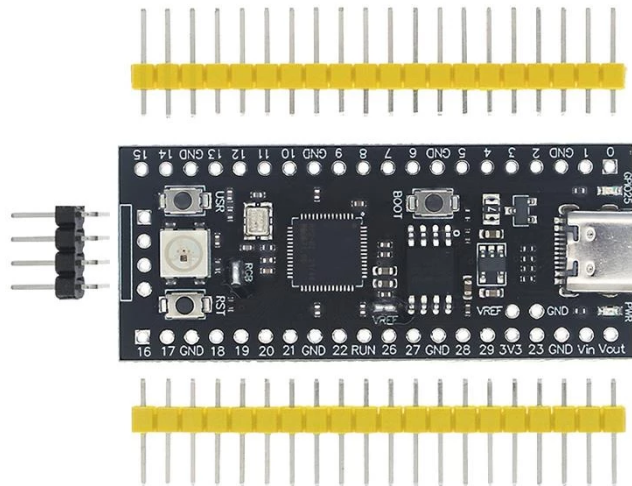# Equipments

Raspberry pi (pico module) RP 2040

The Raspberry Pi Pico is a microcontroller board based on the RP2040 chip designed by the Raspberry Pi Foundation. It's a low-cost, high-performance microcontroller board. The RP2040 chip features a dual-core Arm Cortex-M0+ processor running at up to 133MHz, 264 KB of RAM, and 2MB of onboard flash memory for program storage.

Power Supply (5V)

The Raspberry Pi Pico can be powered using a 5V micro-USB power supply, which is a common type of power supply used for mobile phones and other electronic devices. The Pico has a micro-USB port that can be used for power, and it can also be powered using the VBUS pin on the GPIO header.

STANDARD LCD 16X2 DISPLAY

A standard LCD 16x2 display is a commonly used type of alphanumeric display that can show up to 16 characters per line and up to 2 lines of text. It consists of a backlight, a controller chip, and a set of display modules that contain liquid crystals which can change their orientation in response to an electric current.

MQ 4 (methane detector sensor)

The MQ-4 is a gas sensor module that is commonly used to detect methane, a flammable and potentially hazardous gas that is commonly found in natural gas, biogas, and other sources. The MQ-4 sensor is based on a tin dioxide (SnO_2) sensing element that changes its resistance in response to the presence of methane gas in the air.

DHT 11 (Temperature humidity sensor)

The DHT11 is a digital temperature and humidity sensor module that is used in electronics projects. It consists of a thermistor and a capacitive humidity sensor, as well as a custom ASIC that provides digital output signals for temperature and humidity. The DHT11 responds with a 40-bit data packet that includes the temperature and humidity readings, as well as checksum data for error detection. The temperature readings from the DHT11 are accurate to within ±2°C, and the humidity readings are accurate to within ±5%. The module has a range of 0-50°C for temperature and 20-90% for humidity, making it suitable for use in a wide range of applications.
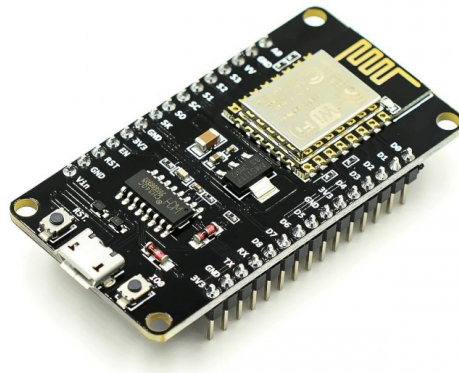

HTC-2 HYDROMETER DIGITAL TEMPERATURE and HUMIDITY METER + CLOCK

The HTC-2 hygrometer is a digital temperature and humidity meter that is commonly used to measure environmental conditions in homes, offices, and other spaces. It consists of a LCD display, a temperature sensor, a humidity sensor, and various control buttons. The HTC-2 can measure temperatures in the range of -50°C to 70°C, and humidity in the range of 10% to 99%.

ESP 8266 (wifi module)

The ESP8266 is a low-cost wifi microchip module that is commonly used in IoT (Internet of Things) and DIY electronics projects. It includes a powerful 32-bit microcontroller and a built-in wifi radio that supports a range of wifi protocols, including 802.11b/g/n.

Ethylene gas detector

An ethylene gas detector is a device that is used to detect the presence of ethylene gas in the air. Ethylene is a colorless and odorless gas that is produced naturally by plants and is commonly used in the agricultural industry to ripen fruits and vegetables.

Led Light

Light Emitting Diode (LED) is a semiconductor device including two terminals. As compared with a normal diode, LED functionality is the same except it produces light once current supplies throughout it.

Buzzer Alarm

A buzzer or beeper is an audio signaling device which may be mechanical, electromechanical, or piezoelectric (piezo for short). Typical uses of buzzers and beepers include alarm devices, timers, trains and confirmation of user input such as a mouse click or keystroke.

Budget

Product Name	Price(Taka)
Raspberry pi pico module RP 2040	800
MQ 4 (Methane Gas Detector) Sensor	150
HTC-2 HYDROMETER DIGITAL TEMPERATURE and HUMIDITY METER + CLOCK	300
ESP8266 wifi module	250
Led Light	10
Power Adapter 9v	450
STANDARD LCD 16X2 DISPLAY	250
Alarm/Buzzer	250
DHT 11 (Temperature humidity sensor)	250
Ethylene gas detector	300-400