ToF

SKU:U010

Description

ToF that employs time-of-flight techniques to resolve distance between the emit point and the reach point of a subject, measuring the round trip time of an artificial light signal provided by a laser.

This unit integrated a distance measuring sensor VL53L0x providing accurate distance measurement whatever the target reflectance, unlike conventional technologies. It can measure absolute distances up to 2m in less than 30ms.

This unit communicates with M5Core via I2C(0x29).

- In this case, make sure you use the 3.3V on SDA and SCL, M5Core GROVE provide 3.3V to data pins, 5V to power pin. only 3.3v allowed on VL53L0x.

Product Features

- High precision
- Measure absolute distances up to 2m
- Measurement accuracy ±3%

- The wavelength of laser: 940nm
- Program Platform: Arduino, UIFlow(Blockly, Python)
- Two Lego-compatible holes

Include

- 1x ToF Unit
- 1x Grove Cable

Applications

- 1D gesture recognition
- Laser Ranging
- 3D structured light imaging（3D sensing）
- Camera assist (ultra fast autofocus and depth of field)

Specification

Resources	Parameter
Measuring distance	0.3-2m
Measurement accuracy	±3%
Net weight	4g
Gross weight	17g
Product Size	32*24*8mm
Package Size	67*53*12mm

Related Link

- **VL53L0X Datasheet**

EasyLoader

> **EasyLoader is a concise and fast program writer, which has a built-in case program related to the product. It can be burned to the main control by simple steps to perform a series of function verification.**

Download Windows Version Easyloader　Download MacOS Version Easyloader

> **Description:**
>
> The screen displays the current ranging data.

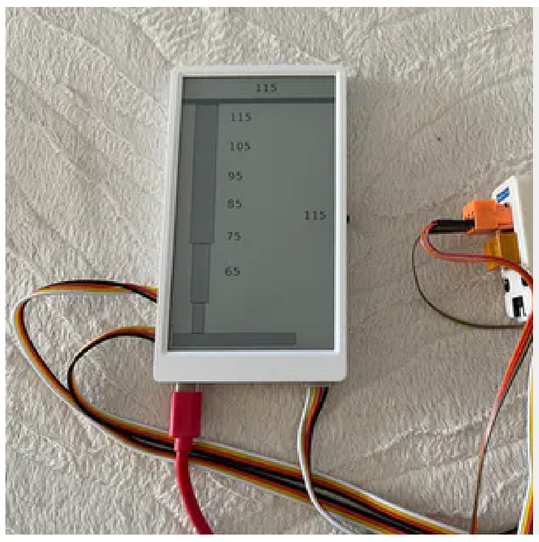
Schematic

ToF Schematic

PinMap

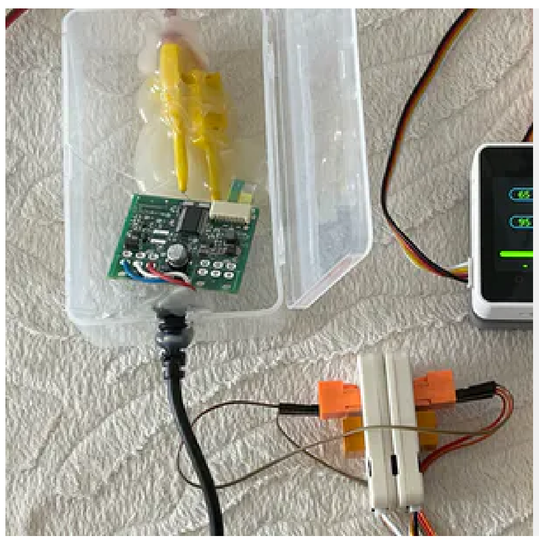
M5Core(GROVE A)	GPIO22	GPIO21	5V	GND
ToF Unit	SCL	SDA	5V	GND

Learn



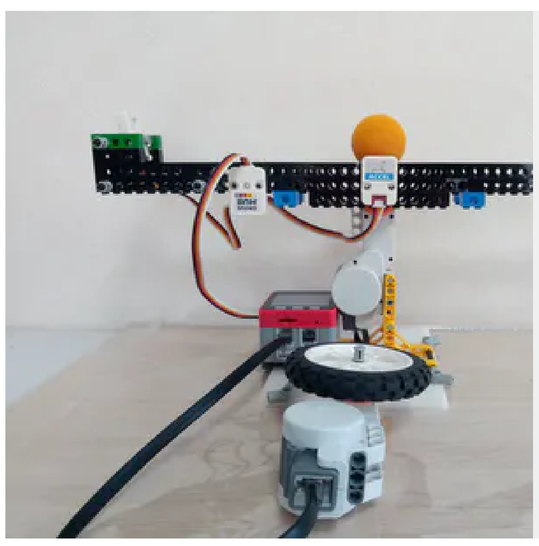
Control sit/stand Desk height with a Paper E-Ink Display

Control IKEA Bekant Desk sit/stand height with M5Stack M5Paper using two Relay units and a ToF (time-of-flight sensor VL53L0x) unit.



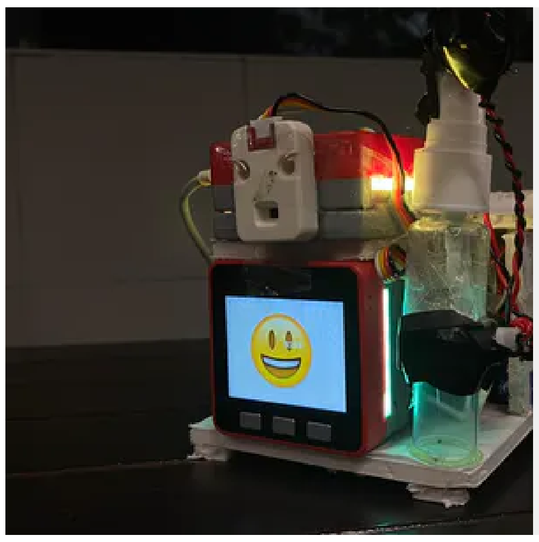
Control sit/stand Desk height with a touch screen

Control IKEA Bekant Desk sit/stand height with M5Stack Core2 using two Relay units and a ToF (time-of-flight sensor VL53L0x) unit.



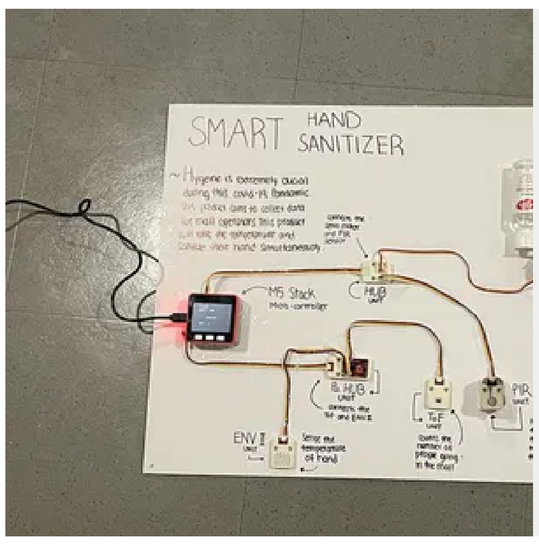
M5Stack Based PID Control Learning Platform

The PID Control Learning Platform is based on an M5Stack Fire & BaseX with TOF and Accel Units, and some Lego NXT parts.



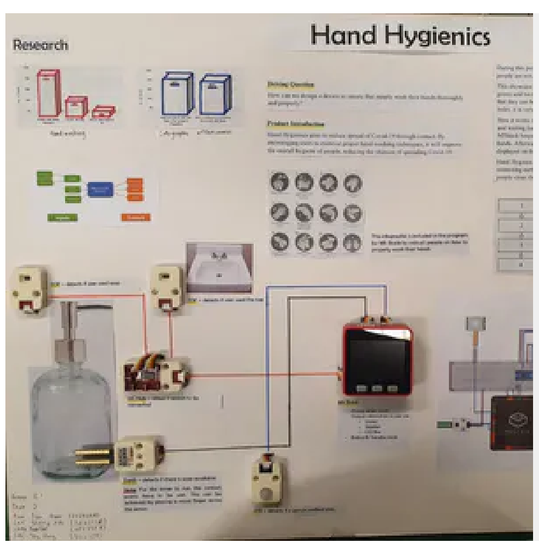
Q-Bot

We aim to build a robot that is effective in sanitizing surfaces without putting cleaners in harm's way.



3 in 1 Sanitiser Dispenser

We have devised with an innovation that dispenses hand sanitiser, measures the temperature of user, shows the count of people in vicinity.



Hand Hygienics

Hand Hygienics aims to reduce spread of Covid-19 through contact.

SEAM [Safe-Entry Access Machine]

An automatic system to perform the tasks of Safe Entry. It consist an adjustable Thermometer, RFID / QR Code Check in and Counting.

Example

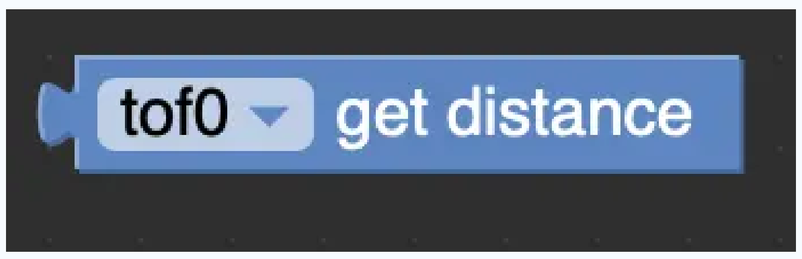
Arduino

- Click here to download the Arduino example

UIFlow

Feature Introduction

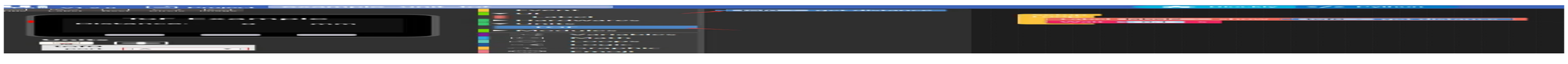
Measuring distance up to 2 meters



- **Get distance** Return distance mm

Usage

- Click here to download the UIFlow example



Last updated: 2020-12-14