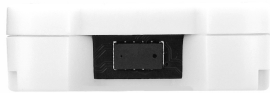


Unit Mini ToF-90°

SKU:U196





Description

The Unit Mini ToF-90° is an ultra-compact Time of Flight (ToF) ranging unit integrating the VL53L0X laser ranging module. By rotating the laser emission module by 90°, it achieves horizontal forward detection with a 25° field of view. It can measure targets within the range of 3-200 cm with a measurement accuracy of $\pm 3\%$. The laser wavelength is 940 nm, the response time is < 30 ms, and it uses the standard HY2.0-4P Grove interface for I2C communication. This product is suitable for intelligent transportation, robot programming, security monitoring, smart home and other fields.

Features

- Measurement distance up to 2 meters
- Field of view: 25°
- Fast response
- I2C communication
- Programming platforms
 - Arduino
 - UiFlow1
 - UiFlow2

Includes

- 1 x Unit Mini ToF-90°
- 1 x HY2.0-4P Grove connection cable (5cm)

Applications

- Intelligent transportation
- Robot programming
- Security monitoring
- Smart home

Specifications

Specification	Parameter
Sensor	VL53L0X
Measurement range	3-200cm
Resolution	1 mm
Measurement speed	23 ms / minimum 8 ms
Field of View (FoV)	25°
Light source type	Laser (ToF)
Laser wavelength	940 nm VCSEL (Class 1 safety level)
Communication Interface	I2C @0x29
Operating temperature range	0 ~ 40°C
Power consumption	Standby mode: without LED light: DC 5.03V@15.01uA; with LED light: DC 5.02V@1.92mA Working mode: DC 5.02V@10.99mA
Product size	24.0 x 24.0 x 8.0mm
Product weight	1.7g
Package size	138.0 x 93.0 x 9.0mm
Gross Weight	3.5g

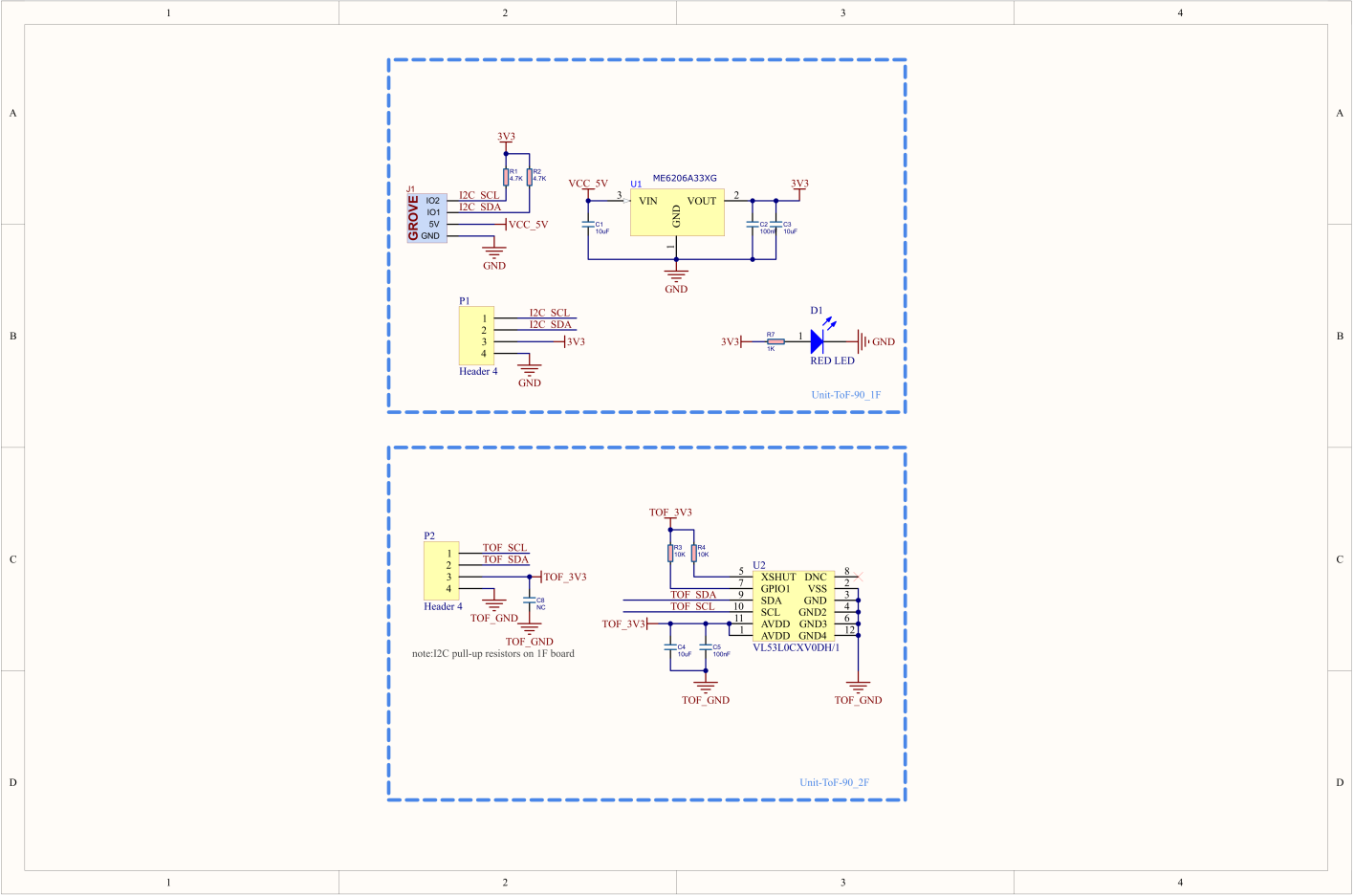
Learn

Measurement Distance

Under normal conditions, the maximum measurable distance is 120 cm. To achieve the maximum range of 200 cm, enable the Long Range Mode and ensure the environment is dark with minimal infrared interference.

Schematics

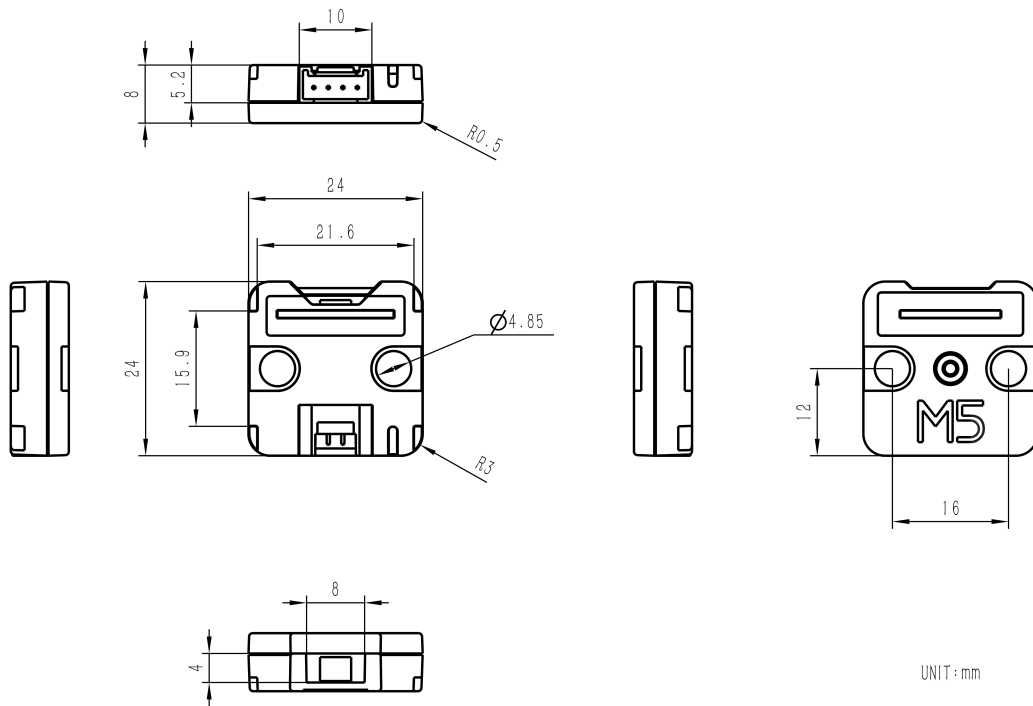
[Unit Mini ToF-90° Schematics PDF](#)



PinMap

HY2.0-4P	Black	Red	Yellow	White
PORT.A	GND	5V	SDA	SCL

Model Size



Structure

- [Unit Mini ToF-90° Structure Files](#)

Datasheets

[VL53L0X](#)

Softwares

Arduino

- [Unit Mini ToF-90° Arduino driver library](#)
- [Unit Mini ToF-90° Arduino test program](#)

UiFlow1

[Unit Mini ToF-90° UiFlow1 documentation](#)

UiFlow2

- [Unit Mini ToF-90° UiFlow2 Docs](#)

Video

Unit Mini ToF-90° product introduction and case display

[U196-Unit_Mini_ToF-90_video.mp4](#)

Product Comparison

Product Compare   			
	Unit Mini ToF-90°	Unit-ToF4M	Unit-TOF
Adjustable Field of View	NO	YES	NO
Chip	VL53L0X	VL53L1X	VL53L0X
Maximum Range	2 meters	4 meters	2 meters
Field of View (FoV)	25°	27° (adjustable)	25°
Sensor installation angle	90°	0°	0°
Typical Accuracy	±3%	±1-2%	±3%