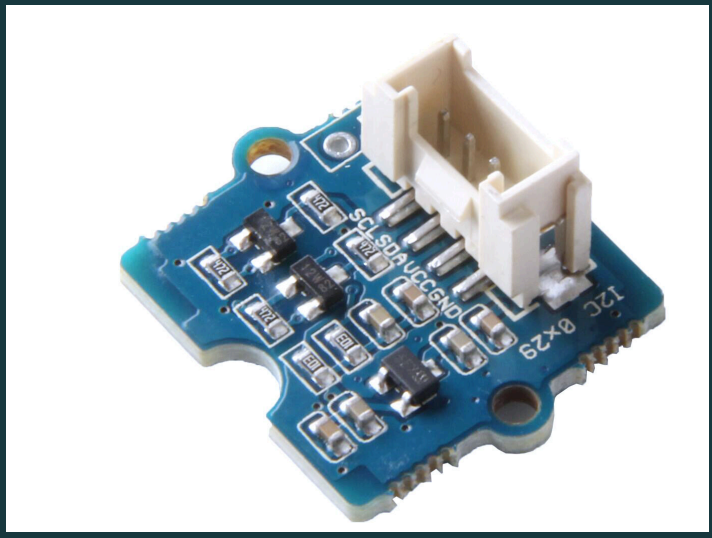
seeed studio

INDUSTRIAL PRODUCT DATASHEET

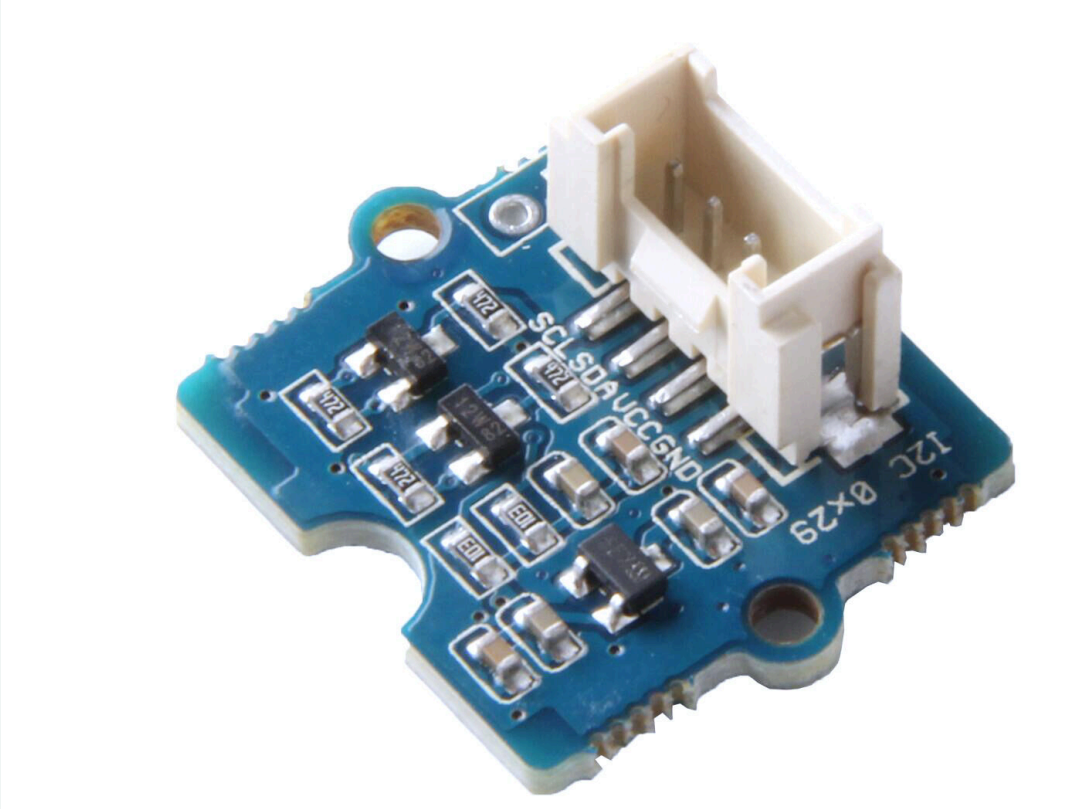
Grove - Time of Flight Distance Sensor(VL53L0X) - (ToF) laser-ranging module,Long Range Precision ranging

Grove - Time of Flight Distance Sensor(VL53L0X): eye-safe Class 1 ToF laser-ranging module measuring absolute range up to 2 m with integrated 940 nm VCSEL and advanced embedded microcontroller.

SKU	UPDATED	PRICE
101020532	2026-11-03 03:43:17	$7.90(Excl. VAT)



Overview



The Grove - Time of Flight Distance Sensor(VL53L0X) is a fully integrated ToF laser-ranging module featuring a 940 nm VCSEL, advanced embedded microcontroller, and optical cross-talk compensation for fast, accurate distance measurement up to 2 m. It is eye safe as a Class 1 laser device compliant with IEC 60825-1:2014 and supports applications such as user detection, obstacle detection, hand detection, 1D gesture recognition, and laser-assisted autofocus.

Key Features

01 **Fully integrated miniature module**

02 **940 nm laser VCSEL**

03 **VCSEL driver**

04 **Ranging sensor with an advanced embedded microcontroller**

05 **Fast, accurate distance ranging**

06 **Measures absolute range up to 2 m**

07 **The reported range is independent of the target reflectance**

08 **Advanced embedded optical cross-talk compensation to simplify cover glass selection**

09 **Eye safe**

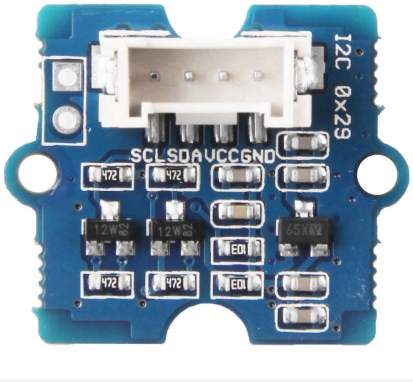
10 **Class 1 laser device compliant with latest standard IEC 60825-1**

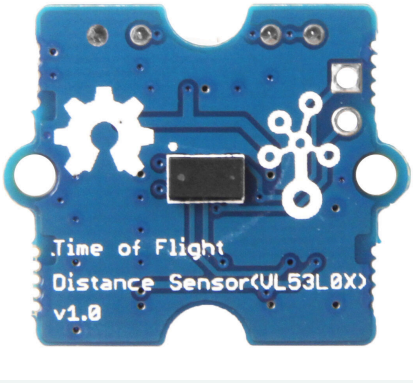
2014 - 3rd edition

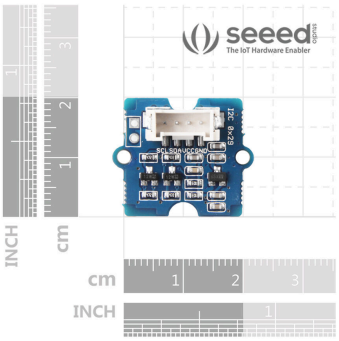
11 **Easy integration**

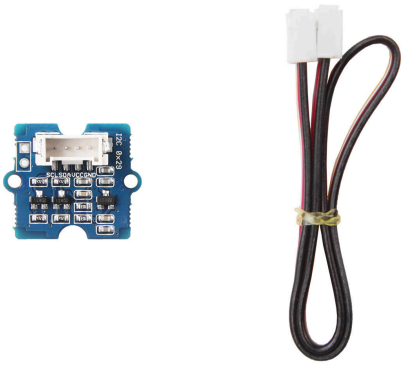
12 **Single power supply**

Product Gallery









Applications

- **User detection for personal computers/laptops/tablets and IoT (energy saving)**
- **Obstacle detection with Robots (Robotics)**
- **White goods:** hand detection in automatic faucets, soap dispensers, etc.
- **1D gesture recognition**
- **Laser-assisted autofocus:** Enhances and speeds up camera autofocus system performance, especially in difficult scenes (low light levels, low contrast) or fast-moving video mode

Resource Links

- https://www.seeedstudio.com/Grove-Time-of-Flight-Distance-Sensor-VL53L0X.html
- Grove-Time of Flight Distance Sensor VL53L0X Eagle files
- VL53L0X User Manual
- VL53L0X Datasheet

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