

INDUSTRIAL PRODUCT DATASHEET

TF-Luna LiDAR Module - Short-Range Distance Sensor

Compact, high-performance TF-Luna LiDAR Module for accurate short-range distance sensing in robotics, UAVs, and industrial applications.

SKU

101990656

UPDATED

2026-04-15 07:25:23

PRICE

\$24.90(Excl. VAT)



Overview

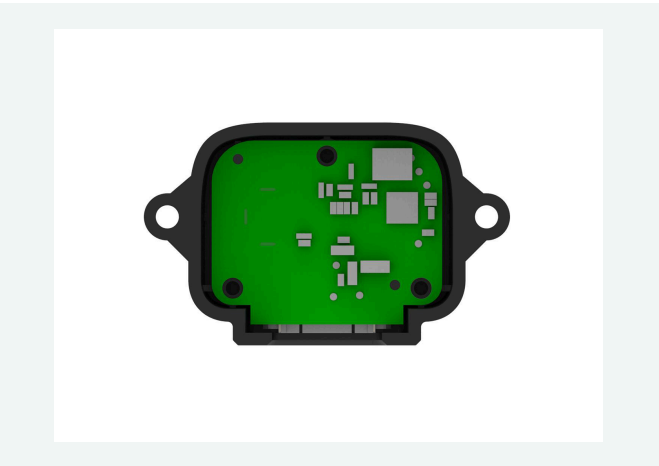


The TF-Luna LiDAR Module is a compact, low-power, lightweight short-range distance sensor designed with high frame rate range detection and in-built algorithms for various application environments. It supports adjustable configurations, easy firmware upgradability, and is suitable for applications including robot and UAV obstacle avoidance, altitude holding, intrusion detection, level measurement, smart city, and industrial uses.

Key Features

- Compact Size for easy deployment in LIDAR projects
- Low Power Consumption for longer usage periods
- Light Weight Design ideal for UAV applications
- High Frame Rate Range Detection through high stability and accuracy
- In-built Algorithms to suit for various application environments
- Adjustable configurations and parameters for complex application scenarios
- Easy Firmware Upgradability via the TTL-USB connection with PC

Product Gallery



Specification

	Parameter	Parameter Value
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Product Performance	Operating range	0.2m~8m(90%reflectivity)
	Accuracy	±6cm@(0.2m-3m) ±2%@(3m-8m)
	Distance resolution	1cm
	Frame rate	100Hz
	Ambient light immunity	70Klux
	Operation temperature	-10°C~60°C
	Enclose rating	/
Optical Parameters	Light source	VCSEL
	Central wavelength	850nm
	Photobiological safety	ClassI(IEC60825)
	FOV (Field of View)	2°
Electrical Parameters	Supply voltage	5V±0.1V
	Average current	≤70mA
	Power consumption	≤0.35W
	Peak current	150mA
	Communication level	LVTTTL(3.3V)
	Communication interface	UART / I2C
Others	Dimension	35mm*21.25mm*13.5mm (L*W*H)
	Housing	ABS+PC
	Storage temperature	-20°C~75°C
	Weight	<5g

Applications

- Robot Obstacle Avoidance
- UAV Obstacle Avoidance
- UAV Altitude Holding
- Intrusion Detection
- Level Measurement
- Smart City
- Industrial

Part List

	Parameter	Parameter Value
Product Performance	Operating range	0.2m~8m(90%reflectivity)
	Accuracy	±6cm@(0.2m-3m) ±2%@(3m-8m)
	Distance resolution	1cm
	Frame rate	100Hz
	Ambient light immunity	70Klux
	Operation temperature	-10°C~60°C
	Enclose rating	/
Optical Parameters	Light source	VCSEL
	Central wavelength	850nm
	Photobiological safety	Class1(IEC60825)
	FOV (Field of View)	2°
Electrical Parameters	Supply voltage	5V±0.1V
	Average current	≤70mA
	Power consumption	≤0.35W
	Peak current	150mA
	Communication level	LVTTTL(3.3V)
	Communication interface	UART / I2C
Others	Dimension	35mm*21.25mm*13.5mm (L*W*H)
	Housing	ABS+PC
	Storage temperature	-20°C~75°C
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	TF-Luna	TFmini-S	TFmini Plus	Grove - TF Mini LiDAR
Operating Range	0.2m -8m @90%reflectivity	0.1 m-12m @90%reflectivity	0.1 m-12m @90%reflectivity	0.3m-12m 5m@10%reflectivity
Frame Rate	1-125Hz	1-1000Hz	1-1000Hz	100Hz
Distance Resolution	1cm	1cm	1cm	1cm
Accuracy	±6cm@(0.2m-3m) ±2%@(3m-8m)	±6cm@(0.1 m-6m) ±1%@(6m-12m)	±5cm@(0.1m-5m) ±1%@(5m-12m)	1%(less than 6m) 2%(6m-12m)
FOV	2°	2°	3.6°	2.3°
Laser Wavelength	850nm	850nm	850nm	850nm
Light Sensitivity	70Klux	70 Klux	70 Klux	70,000lux
Output Data	Single-point, distance value	Single-point, distance value	Single-point distance value	Single-point distance value
Communication Interface	UART, I2C	UART, I2C,I/O	UART, I2C,I/O	UART
Supply Voltage	5V±0.1V	5V±0.1V	5V±0.5V	4.5V-6V
Power Consumption	≤0.35W	≤0.7W	550mW	0.6W
Peak current	150mA	800mA	500mA	800mA
Operating Temperature	-10°C~60°C	0°C~60°C	-20°C~60°C	-20°C-60°C
Laser Safety Class	Class1(IEC60825)	Class1 (IEC60825)	Class1 (IEC60825)	FDA Class I

Dimensions(L*W*H)	35*21.2*12.5mm	42*15*16mm	35*18.5*21 mm	42*15*16mm
Weight	5g±0.3g	5g±0.3g	12g±1g	4.7g
Enclosure Rating	N/A	N/A	IP65	N/A

Compliance & Logistics



HSCODE	9031900090
USHSCODE	9031902100
UPC	
EUHSCODE	9013101000
COO	CHINA

FCC Requirement

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

15.21

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy.

If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Resource Links

- <https://www.seeedstudio.com/TF-Luna-LiDAR-Module-Short-Range-Distance-Sensor-p-4561.html>
- [Datasheet](#)
- [Product Manual](#)
- [PC Software](#)

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