TF-Luna LiDAR module (Short-range distance sensor）

Product specification SJ-GU-TF-Luna A01

TF-Luna is a single-point ranging LiDAR, based on TOF principle.

Mainly used for stable, accuracy and high-frame rate range detection.

The product is built with algorithms adapted to various application environments and adopts multiple adjustable configurations and parameters so as to offer excellent distance measurement performances in complex application fields and scenarios.

Main product features

- Small size
- Light weight
- Low power consumption

Main application scenario

- Auxiliary focus
- Elevator projection
- Intrusion detection
- Level measurement

Technical Specifications and Parameters

Description		Parameter value
Product performance	Operating range	0.2m~8m(90%reflectivity) [1]
	Accuracy	±6cm@(0.2m-3m)[2] ±2%@(3m-8m)
	Distance resolution	1cm
	Frame rate	100Hz[3]
	Ambient light immunity	70Klux
	Operation temperature	-10℃~60℃
	Enclose rating	/
Optical parameters	Light source	VCSEL
	Central wavelength	850nm
	Photobiological safety	Class1(IEC60825)
	FOV	2°[4]
Electrical parameters	Supply voltage	5V±0.1V
	Average current	≤70mA
	Power consumption	≤0.35W
	Peak current	150mA
	Communication level	LVTTL(3.3V)
	Communication interface	UART / I2C
Others	Dimension	35mm*21.25mm*13.5mm (L*W*H)
	Housing	ABS+PC
	Storage temperature	-20℃~75℃
	Weight	< 5g

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[1] Range based on the indoor test with the standard white board (90% reflectivity) at 25℃as the detection object；

[2] Accuracy based on the indoor test with the standard white board (90% reflectivity) at 25℃as the detection object；
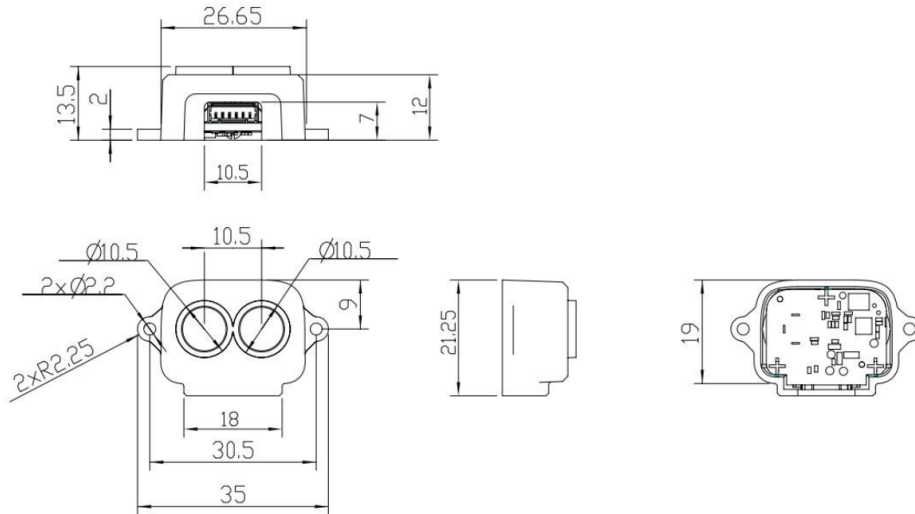
[3] The Highest frame rate 250Hz, default setting is 100Hz;

[4] This is a theoretical reference value .

Product Appearance and Structure

TF-Luna dimensions (Unit: mm)

Communication Interface

TF-Luna supports two interfaces: UART and I²C.

Communication Interface--UART

Default baud rate	115200 (adjustable)
Data bit	8
Stop bit	1
Parity	None

Communication Interface--I²C

Max transmission rate	400kbps
Master/Slave mode	Slave
Default address	0x10
Address range	0x01~0x7F

Configurable parameters

Parameters	UART		I^{2}C	
	Description	Default setting	Description	Default setting
Communication interface	UART, I^{2}C and I/O	UART	UART, I^{2}C and I/O	I^{2}C
Frame rate	Adjustable, 1~2500Hz	100Hz	Adjustable, 1~250Hz	/
Baud rate	Adjustable, 9600-921600bps	115200bps	Fast mode, 400Kbps	/
Reset to default	Reset all the settings to default	/	Reset all the settings to default	/

Note: Refer to user manual for more information