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

Product specification SJ-GU-TF-Luna A05

北醒
Benewake

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	Main application scenarios
• Small size	• Auxiliary focus
• Light weight	• Elevator projection
• Low power consumption	• Intrusion detection
• Low cost	• Level measurement

■ SPECIFICATIONS

Description		Parameter value
Product performance	Operating range	0.2m~8m(90%reflectivity indoor 0klux)[1] 0.2m~2.5m(10%reflectivity indoor 0klux) [2] 0.2m~8m(90%reflectivity outdoor 90klux) 0.2m~2.5m(10%reflectivity outdoor 90klux)
	Accuracy	±6cm@(0.2m-3m)[3] ±2%@(3m-8m)
	Distance resolution	1cm
	Frame rate	1-250Hz[4]
	Ambient light immunity	70Klux
	Operation temperature	-10℃~60℃
	Enclose rating	/
Optical parameters	Light source	VCSEL
	Central wavelength	850nm
	Photobiological safety	Class1 (IEC60825)
	FOV	2°[5]
Electrical parameters	Supply voltage	3.7V-5.2V
	Average current	≤70mA

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

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

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

[4] The Highest frame rate is 250Hz，the default frame rate is 100Hz. The customized update rate should be calculated by the formula: 500/n (n is more than 2)，；

[5] This is a theoretical reference value.

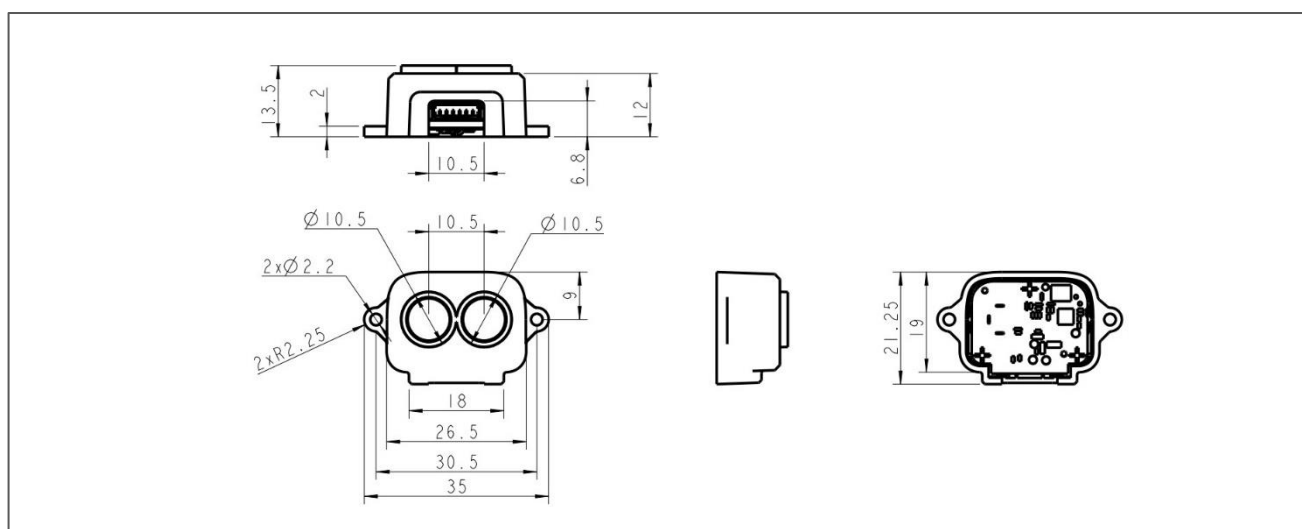|	Power consumption	≤0.35W
	Peak current	150mA
	Communication level	LVTTL(3.3V)
	Communication interface	UART / I2C
Others	Dimension	35mm*21.25mm*12.5mm (L*W*H)
	Housing	ABS+PC
	Storage temperature	-20℃~75℃
	Weight	<5g

■ DIMENSIONS

Figure 1 TF-Luna dimensions（Unit: mm）

■ COMMUNICATION INTERFACE

Table 1 Communication Interface—UART

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

Table 2 Communication Interface--I2C

Max transmission rate	400kbps
Master/Slave mode	Slave
Default address	0x10
Address range	0x08~0x77

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