

TFmini Plus Single-Point Ranging LiDAR

1. Product Description

TFmini Plus is a single-point ranging LiDAR, based on ToF principle. Mainly used for stable, accuracy and high-frequency range detection. This module is characterized by the following points:

- High frequency(Up to 1000Hz)
- Small size
- Low power consumption(550mW, $\leq 100\text{mW}$ in special mode)
- IP65 Enclosure

TFmini Plus is mainly used in the following application field:

- Pedestrian detection
- Vehicle detection
- Altimeter
- Robot fall-arrest





2. Technical Specifications and Parameters

Table 1 Main characteristic parameters of TFmini Plus

Parameters		UART	I ² C
Performance	Operating Range	0.1m~12m@90%Reflectivity 0.1~4m@10% Reflectivity 0.1m~12m@90% Reflectivity (70Klux) 0.1~4m@10% Reflectivity (70Klux)	
	Accuracy	±5cm@ (0.1-5m) ^① ±1%@ (5m-12m)	
	Distance resolution	1cm	
	Frame rate	1-1000Hz (adjustable) ^②	1-100Hz (adjustable)
	Repetitive Accuracy	1σ: <3cm(@100Hz) ^③	1σ: <4cm(@100Hz)
	Ambient light immunity	70Klux	
	Operating Temperature	-20°C~60°C	
	Enclosure Rating	IP65	
Optical parameters	Light source	LED	
	Central wavelength	850nm	
	Photobiological safety	Exemption level (EN62471)	
	FOV	3.6° ^④	
Electrical parameters	Supply voltage	5V±0.5V	
	Average current	≤110mA	
	Power consumption	550mW (Low Power Consumption Mode: <100mW)	
	Peak current	140mA	
	Communication level	LVTTTL (3.3V)	
	Communication interface	UART、I/O	I ² C
Miscellaneous	Size	35mm*18.5mm*21mm	



	Housing material	PC/ABS
	Storage temperature	-20°C~75°C
	Weight	12g±1g
	Cable length	30cm

- ① Accuracy was calculated based on the standard indoor test condition of 25 °C and whiteboard of 90% reflectivity, changes in conditions may cause errors to increase.
- ② Only frame rates meet the formula – 1000/n (n is positive integer) can be set.
- ③ More detailed information please refer to the user manual.
- ④ This is a theoretical reference value

3. Product Appearance and Structure

Fig. 1 Dimension of TFmini Plus(Unit:mm)

4. Communication Interface

TFmini Plus supports two interfaces: UART and I2C.

Table 2 Communication Interface--UART

Default Baud rate	115200
Data bits	8
Stop bit	1
Parity	None

Table 3 Communication Interface--I²C

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



5. Configurable parameters

Table 4 Configurable parameters list

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, 1~1000Hz	100Hz	Adjustable, 1~100Hz	/
Low power consumption mode	Adjustable, normal/low power consumption mode	Off	Not support	/
Baud rate	Adjustable, 9600~921600bps	115200bps	Adjustable, <=400kbps	/
Reset to default	Reset all the settings to default	/	Reset all the settings to default	/

PS: Refer to user manual for more information

6. Certifications



EN62471 光生物安全认证



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