



# 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, <=100mW 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 <sup>2</sup> 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) <sup>①</sup> ±1%@ (5m-12m)	
	Distance resolution	1cm	
	Frame rate	1-1000Hz (adjustable) <sup>②</sup>	1-100Hz (adjustable)
	Repetitive Accuracy	1σ: <3cm(@100Hz) <sup>③</sup>	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° <sup>④</sup>	
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 <sup>2</sup> 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*

<b>Default Baud rate</b>	115200
<b>Data bits</b>	8
<b>Stop bit</b>	1
<b>Parity</b>	None

*Table 3 Communication Interface--I<sup>2</sup>C*

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





## 5. Configurable parameters

Table 4 Configurable parameters list

Parameters	UART		I <sup>2</sup> C	
	Description	Default setting	Description	Default setting
<b>Communication interface</b>	UART, I <sup>2</sup> C and I/O	UART	UART, I <sup>2</sup> C and I/O	I <sup>2</sup> C
<b>Frame rate</b>	Adjustable, 1~1000Hz	100Hz	Adjustable, 1~100Hz	/
<b>Low power consumption mode</b>	Adjustable, normal/low power consumption mode	Off	Not support	/
<b>Baud rate</b>	Adjustable, 9600~921600bps	115200bps	Adjustable, <=400kbps	/
<b>Reset to default</b>	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

