



TFmini Plus Single-Point Ranging LiDAR (Indoor Version)

1. Product Description

TFmini Plus(Indoor Version) 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(Indoor Version) 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(Indoor Version)

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 (Indoor)	±5cm@ (0.1-5m) ^① ±1%@ (5m-12m)	
	Accuracy (Outdoor)	±30cm@ (0.1-12m) ^②	
	Distance resolution	1cm	



	Frame rate	1-1000Hz (adjustable) ^③	1-100Hz (adjustable)
	Repetitive Accuracy	1σ: <3cm(@100Hz) ^④	1σ: <4cm(@100Hz)
	Ambient immunity light	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° ^⑤	
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	ABS+PC	
	Storage temperature	-20°C~75°C	
	Weight	12g±1g	
	Cable length	30cm	

① Accuracy was calculated based on a standard whiteboard with reflectivity 90% in indoor condition

② If the application needs high accuracy, please choose TFmini Plus standard version

③ Only frame rates meet the formula – 1000/n (n is positive integer) can be set.

④ More detailed information please refer to the user manual.

⑤ This is a theoretical reference value



3. Product Appearance and Structure

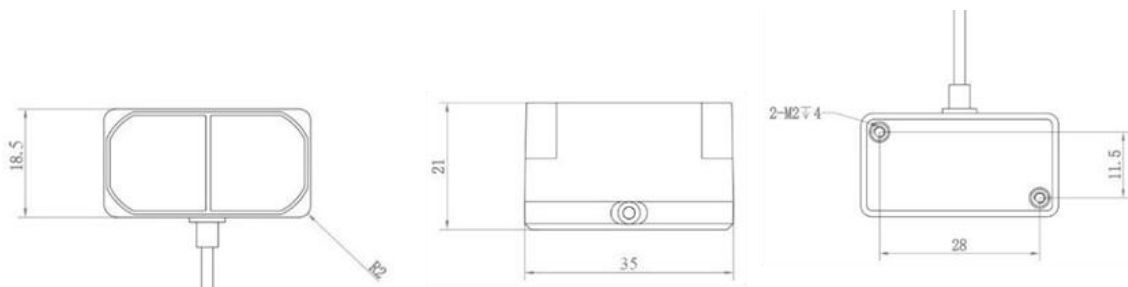


Fig. 1 Dimension of TFmini Plus(Indoor Version)

4. Communication Interface

TFmini Plus(Indoor Version) supports two interfaces: UART and I2C.

Table 2 Communication Interface--UART

Default Baud rate	115200
Data bits	8 <i>Unit: mm</i>
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	/
Baud rate	Adjustable, 9600~921600bps	115200bps	Adjustable, ≤400kbps	/



Reset to default	Reset all the settings to default	/	Reset all the settings to default	
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PS: Refer to user manual for more information

6. Certifications



EN62471 光生物安全认证

