

# TFmini Plus LiDAR

TFmini Plus is a single-point ranging LiDAR, based on ToF principle. Mainly used for stable, accuracy and high-frequency range detection.

## Main Features

- High frequency(Up to 1000Hz)
- Small size
- Low power consumption
- (550mW, <=100mW in special mode)
- IP65 Enclosure

## Typical Applications

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



## SPECIFICATIONS

Parameters		Typical Value	
Parameter Name		UART	I <sup>2</sup> C
Product 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)
	Repeatability	1σ: <3cm(@100Hz) <sup>3</sup>	1σ: <4cm(@100Hz)

<sup>1</sup> The accuracy is the standard test condition at 25°C indoors, which is measured by whiteboard based on 90% reflectivity, and the change of conditions may cause the error to increase.

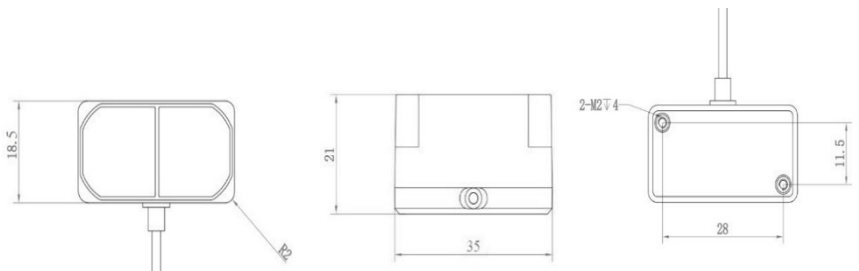
<sup>2</sup> Only frame rates meet the formula – 1000/n (n is positive integer) can be set.

<sup>3</sup> More detailed information please refer to the user manual.

Parameters		Typical Value	
Parameter Name		UART	I <sup>2</sup> C
	Ambient light resistance	70Klux	
	Operation temperature	-20°C~60°C	
	Protection Level	IP65	
<b>Optical Parameters</b>	Light source	LED	
	Central wavelength	850nm	
	Photobiological safety	Exemption level (EN62471)	
	FOV	3.6° <sup>4</sup>	
<b>Electrical Parameters</b>	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
<b>Other Parameters</b>	Dimensions	35mm*18.5mm*21mm	
	Enclosure material	PC/ABS	
	Storage temperature	-20°C~75°C	
	Weight	12g±1g	
	Cable length	30cm	
	Accuracy	±5cm@ (0.1-5m) <sup>5</sup> ±1%@ (5m-12m)	

<sup>4</sup> This is a theoretical reference value

<sup>5</sup> The accuracy is the standard test condition at 25°C indoors, which is measured by whiteboard based on 90% reflectivity, and the change of conditions may cause the error to increase.

Parameters		Typical Value	
Parameter Name		UART	I <sup>2</sup> C
Dimensions	 <p style="text-align: center;">Dimension of TF02-Pro (Unit: mm)</p>		

## Communication Interface

TFmini Plus supports two interfaces: UART and I<sup>2</sup>C:

Communication Interface--UART		Communication Interface--I <sup>2</sup> C	
Interface	Value	Interface parameters	Value
Default Baud	115200	Max transmission rate	400kbps
Data bits	8	Master/Slave mode	Slave
Stop bit	1	Default address	0x10
Parity	None	Address range	0x01~0x7F

## Configurable Parameters

Parameters	UART		I <sup>2</sup> C	
	Description	Default setting	Description	Default setting
Communication interface	UART, I <sup>2</sup> C, I/O	UART	UART, I <sup>2</sup> C, I/O	I <sup>2</sup> C
Frame rate	Adjustable, 1~1000Hz	100Hz	Adjustable, 1~100 Hz	/
Low power consumption mode	Adjustable, normal/low power consumption mode	Off	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