

# TF02-Pro LiDAR (Mid-range distance sensor)

## 1. Product Description

TF02-Pro is a single-point ranging LiDAR based on TF02 upgrade. The performance and accuracy of different reflectivity are improved, it can achieve stable, accuracy, sensitive and high frequency range detection.

Main features of product:

- The range up to 40 meters
- Ambient light resistance(Up to 100Klux)
- High frame rate(up to 1000Hz)
- Low power consumption

Main applications:

- Intelligent traffic
- Intelligent parking lots
- Material level monitoring
- UAV



## 2. Technical Specifications and Parameters

Table 1 Main characteristic parameters of TF02-Pro

Parameter Name		Value
Product performance	Operating Range	0.05~40m@90%reflectivity 0.05~13.5m@10%reflectivity 0.05~40m@90% reflectivity (100Klux) 0.05~13.5m@10% reflectivity (100Klux)
	Accuracy <sup>1</sup>	±5cm (0.05~5m) , ±1% (5~40m)
	Distance Resolution	1cm
	frame rate	100Hz
	Repeatability	1σ: < 2cm (0.05~35m@90% reflectivity)
	Ambient light resistance	100Klux
	Operation t temperature	-20~60°C
Protection Level	IP65	
Optical Parameters	Light source	VCSEL
	Central wavelength	850nm
	FOV	3°
	Photobiological safety	Class 1 (EN60825)
Electrical Parameters	Supply voltage	DC 5V~12V
	Average Current	≤200mA
	Power consumption	≤1W
	Peak Current	300mA
	Communication level	LVTTL (3.3V)
	Communication interface	UART/I2C
Other Parameters	Dimensions	69mmx41.5mmx26mm (L*W*H)
	Weight	50g (with cables)
	Enclosure material	PC/ABS
	Storage temperature	-30~80°C
	Cable length	80cm

<sup>1</sup> Accuracy is measured in white object (90% reflectivity) at 25°C and will be somewhat different in case of different reflectivity or light sensitivity conditions or temperature.



### 3. Product Appearance and Structure

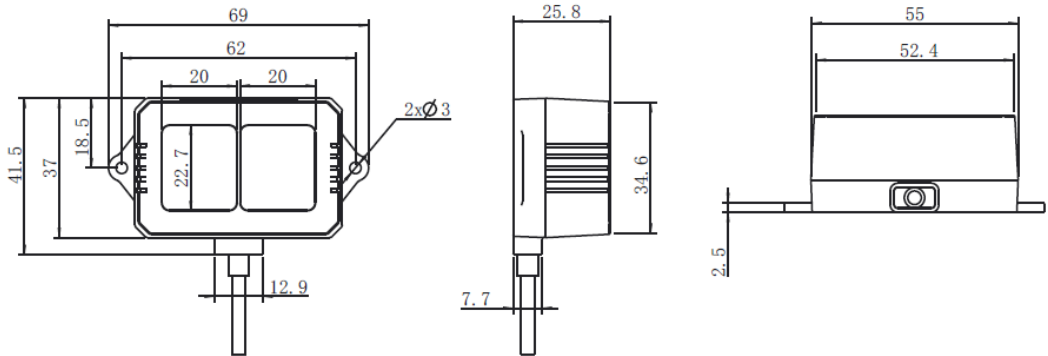


Figure 1 Dimension of TF02-Pro (Unit:mm)

### 4. Communication Interface

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

Parameters	UART		I2C	
	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>Baud rate</b>	Adjustable, 9600~921600bps	115200bps	Fast mode (400kbps)	/
<b>Reset to default</b>	Reset all the settings to default	/	Reset all the settings to default	/

## 6. Product Certification

