

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	0.1~40m@90%reflectivity 0.1~13.5m@10%reflectivity 0.1~40m@90% reflectivity (100Klux) 0.1~13.5m@10% reflectivity (100Klux)
	Accuracy ¹	±5cm (0.1~5m) , ±1% (5~40m)
	Distance Resolution	1cm
	frame rate	100Hz
	Repeatability	1σ: < 2cm (0.1~35m@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

¹ Accuracy was calculated based on a standard white board with 90% reflectivity in indoor condition(25°C), changes in conditions may cause errors to increase

3. Product Appearance and Structure

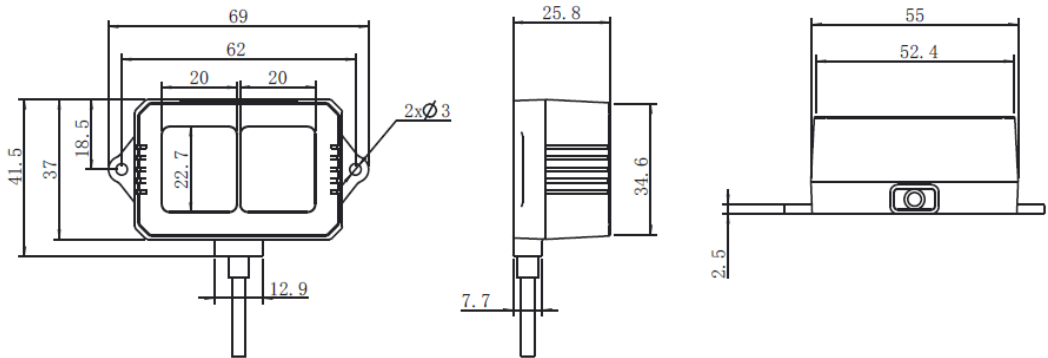


Figure 1 Dimension of TF02-Pro (Unit:mm)

4. Communication Interface

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

Parameters	UART	
	Description	Default setting
Communication interface	UART, I ² C and I/O	UART
Frame rate	Adjustable, 1~1000Hz	100Hz
Baud rate	Adjustable, 9600~921600bps	115200bps
Reset to default	Reset all the settings to default	/

6. Product Certification

