

TF02-Pro LiDAR

TF02-Pro as a cost-effective mid-range distance sensor, ranging performance up to 40m, based on ToF, can be widely used in UAV altitude hold, intelligent transportation, parking, agricultural applications. TF02-Pro is the upgraded version, and it has optimized optical system and algorithm to achieve better realization in outdoor in the presence of ambient light, different reflectivity backgrounds and temperature.



Main product features

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

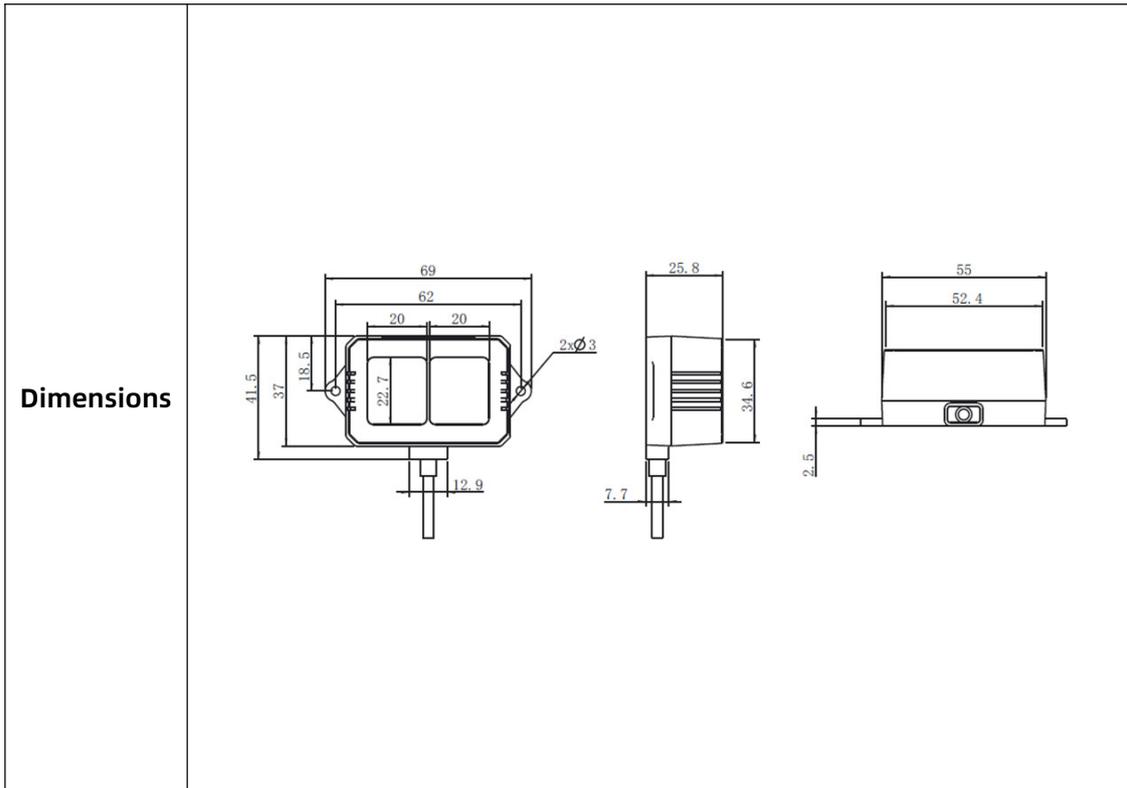
Main application scenarios

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

SPECIFICATIONS

Parameters		Typical Value	
Product performance	Operating range	Indoor 0Klux	Outdoor 100Klux
		0.1m~40m @90% reflectivity ¹ 0.1m~13.5m@10% reflectivity ²	0.1m~40m @90% reflectivity 0.1m~13.5m@10% reflectivity
	Accuracy ³	±5cm @ (0.1m~5m) ; ±1% @ (5m~40m)	
	Distance resolution	1cm	
	Frame rate ⁴	1Hz~1000Hz (adjustable, default 100Hz)	
	Repeatability	1σ: < 2cm (0.1m~35m@90% reflectivity)	
	Ambient light immunity	100 Klux	
	Enclosure rating	IP65	
Optical	Photobiological	Class 1 (IEC60825)	

parameters	safety			
	Central wavelength	850nm		
	Light source	VCSEL		
	FoV ⁵	3°		
Electrical parameters	Supply voltage	DC 5V~12V		
	Average current	≤200mA		
	Power consumption	≤1W		
	Peak current	300mA		
	Communication level	LVTTTL (3.3V)		
Others	Dimension (L×H×W)	69mm×41.5mm×26mm		
	Enclosure	ABS/PC		
	Operating temperature	-20°C~60°C		
	Storage temperature	-30°C~80°C		
	Weight	50g (with cables)		
	Cable length	80 cm		
Communication interface	UART		I²C	
	Default Baud rate	115200	Max transmission rate	400kbps
	Data bit	8	Master/slave mode	Slave
	Stop bit	1	Default address	0x10
	Parity	None	Address range	0x01~0x7F



1. The detection range is determined with the standard white board (90% reflectivity) at 25°C, changes in conditions may cause changes in measurement results.
2. The detection range is determined with the standard black board (10% reflectivity) at 25°C, changes in conditions may cause changes in measurement results.
3. The accuracy is measured with the standard white board (90% reflectivity) at 25°C, changes in conditions may cause changes in measurement results.
4. The highest frame rate is 1000Hz, the customized frame rate should be calculated by the formula: $2000/n$ (n is an integer with ≥ 2).
5. The angle is a theoretical value, the actual angle value has some deviation.

Disclaimer : As our products are constantly improving and updating, the specifications of TF02-Pro are subjected to change. Please refer to the official website for the latest version.