

# 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.



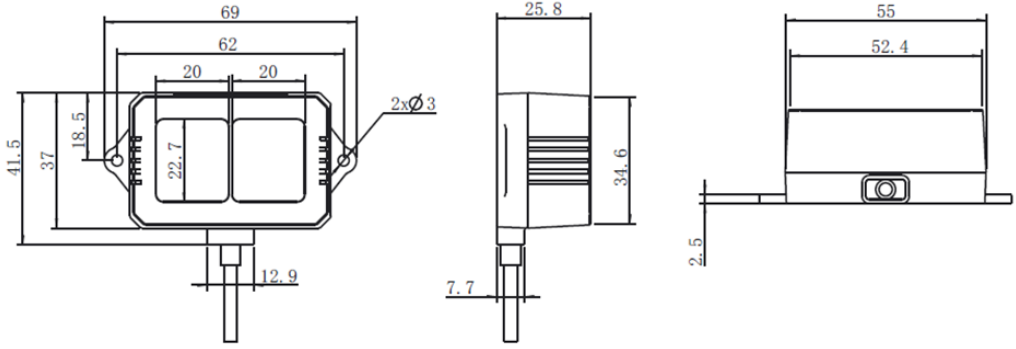
## Main product features

- ✓ 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

Product performance		
	Indoor 0Klux	Outdoor 100Klux
Operating range	0.1m~40m @90% reflectivity <sup>1</sup> 0.1m~13.5m@10% reflectivity <sup>2</sup>	0.1m~40m @90% reflectivity 0.1m~13.5m@10% reflectivity
Accuracy <sup>3</sup>	±5cm @ (0.1m~5m) ; ±1% @ (5m~40m)	
Distance resolution	1cm	
Frame rate <sup>4</sup>	1Hz~1000Hz (adjustable, default 100Hz)	
Repeatability	1σ: <2cm (0.1m~35m@90% reflectivity)	
Ambient light immunity	100 Klux	
Enclosure rating	IP65	
Optical parameters		
Photobiological safety	Class 1 (IEC60825)	
Central wavelength	850nm	
Light source	VCSEL	
FoV <sup>5</sup>	3°	
Electrical parameters		
Supply voltage	DC 5V~12V	
Average current	≤200mA	
Power consumption	≤1W	
Peak current	300mA	
Communication level	LVTTL (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		
<b>Communication interface</b>			
UART		I <sup>2</sup> C	
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	0x10~0x7F
<b>Dimensions</b>			
			

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  $\geq 2$ ).
5. The angle is a theoretical value, the actual angle value has some deviation.
6. 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.