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

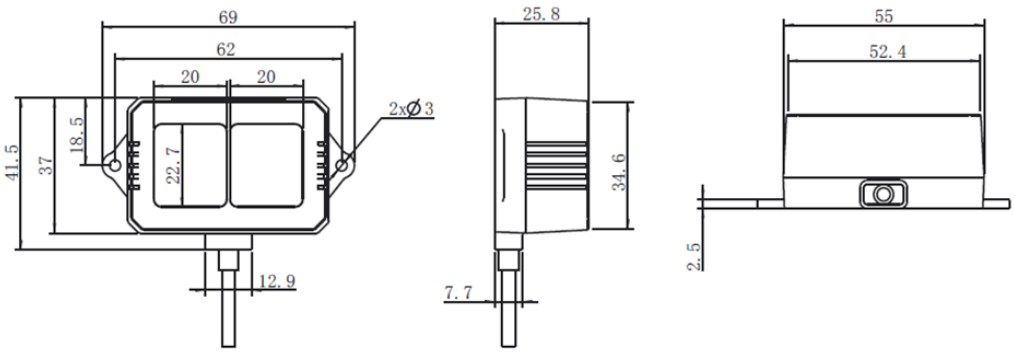
- ✓ Intelligent traffic
- ✓ Intelligent parking
- ✓ Material level monitoring
- ✓ UAV

Product performance		
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 parameters		
Photobiological safety	Class 1 （IEC60825）	
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	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

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	0x10~0x7F

Dimensions



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.
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.