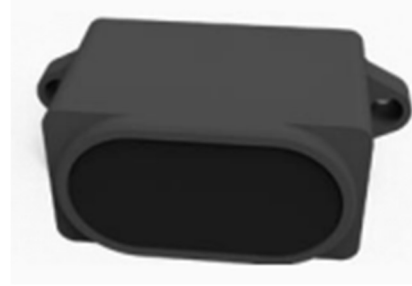


OVERVIEW

TZN51 is a high-performance single-point LiDAR. Based on the principle of ToF, it is equipped with related optics, electricity, and algorithm design to achieve high-precision laser distance measurement and outputting high frame rate point cloud data of the scanning environment. It can be used for UAV alt-hold, robot obstacle avoidance and navigation, etc.



TECHNICAL SPECIFICATIONS

PERFORMANCE PARAMETER

Item	Min	Typical	Max	Unit	Remarks
Ranging frequency	10	/	1800	Hz	Indicates ranging times per second, and the frequency changes in real time according to the scene
Ranging distance	50	/	15000	mm	80% reflectivity
Relative error	/	/	20	mm	Distance ≤ 1000mm
	/	/	3%	/	1000 < Distance < 2000mm
	/	/	4%	/	2000 ≤ Distance < 15000mm
Service life	10000	/	/	h	/

ELECTRICAL PARAMETER

Item	Min	Typical	Max	Unit	Remarks
Supply voltage	4.8	5.0	5.2	V	Excessive voltage might damage the Lidar while low affect normal performance
Voltage ripple	0	78	90	mV	High ripple affects performance and even can't measure distance
Start-up current	/	10	/	A	/
Working current	/	100	/	mA	/


INTERFACE DEFINITION

Pin	Type	Description	Defaults	Range	Remarks
VCC	Power supply	Positive	5V	/	/
Tx	Output	System serial output	/	/	Data stream: Lidar → Peripherals
Rx	Input	System serial port Input	/	/	Data stream: Peripherals → Lidar
GND	Power supply	Negative	0V	0V	/

SERIAL PORT SPECIFICATION

Item	Min	Typical	Max	Unit	Remarks
Baud rate	/	460800	1500000	bps	8-bit data bit, 1 stop bit, no parity
High signal level	2.4	3.3	3.5	V	/
Low signal level	0	/	0.6	V	/

LASER OPTICAL PARAMETERS

Item	Min	Typical	Max	Unit	Remarks
Laser wavelength	898	905	912	nm	Infrared band
Laser power	/	25	/	mW	/
FDA	 Class I IEC60825-1				

OTHERS

Item	Min	Typical	Max	Unit	Remarks
Operating temperature	-10	25	50	°C	Long-term operation in a high-temperature environment will reduce the service life
Store temperature	-20	25	70	°C	/
Lighting environment	/	/	60000	Lux	/
weight	/	15	/	g	N.W.