

SPL12-Pro LiDAR

SPL12-Pro is a single-point ranging LiDAR, based on ToF principle. Mainly used for stable, accuracy and high-frequency range detection.

Main Features

- High frequency(Up to 1000Hz)
- Small size
- Low power consumption (550mW, <=100mW in special mode)
- IP65 Enclosure

Typical Applications

- Pedestrian detection
- Vehicle detection
- Altimeter
- Robot fall-arrest



SPECIFICATIONS

Parameters		Typical Value	
Parameter Name		UART	I ² C
Product performance	Operating Range	0.1m~12m@90%Reflectivity 0.1~4m@10% Reflectivity 0.1m~12m@90% Reflectivity (70Klux) 0.1~4m@10% Reflectivity (70Klux)	
	Accuracy	±5cm@ (0.1-5m) ¹ ±1%@ (5m-12m)	
	Distance Resolution	1cm	
	frame rate	1-1000Hz (adjustable) ²	1-100Hz (adjustable)
	Repeatability	1σ: <3cm(@100Hz) ³	1σ: <4cm(@100Hz)
	Ambient light resistance	70Klux	
	Operation	-20°C~60°C	

¹ The accuracy is the standard test condition at 25°C indoors, which is measured by whiteboard based on 90% reflectivity, and the change of conditions may cause the error to increase.

² Only frame rates meet the formula - 1000/n (n is positive integer) can be set.

³ More detailed information please refer to the user manual.

Parameters		Typical Value	
Parameter Name		UART	I ² C
	temperature		
	Protection Level	IP65	
Optical Parameters	Light source	LED	
	Central wavelength	850nm	
	Photobiological safety	Exemption level (EN62471)	
	FOV	3.6 ⁰⁴	
Electrical Parameters	Supply voltage	5V±0.5V	
	Average Current	≤110mA	
	Power consumption	550mW (Low Power Consumption Mode: <100mW)	
	Peak Current	140mA	
	Communication level	LVTTTL (3.3V)	
	Communication interface	UART, I/O	I2C
Other Parameters	Dimensions	35mm*18.5mm*21mm	
	Enclosure material	PC/ABS	
	Storage temperature	-20°C~75°C	
	Weight	12g±1g	
	Cable length	30cm	
	Accuracy	±5cm@ (0.1-5m) ⁵ ±1%@ (5m-12m)	

⁴ This is a theoretical reference value

⁵ The accuracy is the standard test condition at 25°C indoors, which is measured by whiteboard based on 90% reflectivity, and the change of conditions may cause the error to increase.

Parameters		Typical Value	
Parameter Name		UART	I ² C
Dimensions			
	Dimension of TF02-Pro (Unit: mm)		

Communication Interface

SPL12-Pro supports two interfaces: UART and I²C:

Communication Interface--UART		Communication Interface--I ² C	
Interface	Value	Interface parameters	Value
Default Baud	115200	Max transmission rate	400kbps
Data bits	8	Master/Slave mode	Slave
Stop bit	1	Default address	0x10
Parity	None	Address range	0x01~0x7F

Configurable Parameters

Parameters	UART		I ² C	
	Description	Default setting	Description	Default setting
Communication interface	UART, I ² C, I/O	UART	UART, I ² C, I/O	I ² C
Frame rate	Adjustable, 1~1000Hz	100Hz	Adjustable, 1~100 Hz	/
Low power consumption mode	Adjustable, normal/low power consumption mode	Off	Support	/
Baud rate	Adjustable, 9600~921600bps	115200bps	Adjustable, <=400kbps	/
Reset to default	Reset all the settings to default	/	Reset all the settings to default	/

PS: Refer to user manual for more information

