

# SPL100-Pro LiDAR

## (Long-range distance sensor)

SPL100-Pro is an industrial-grade long-range LiDAR. Its maximum detection range can reach 100m. With integrated compensating algorithm for outdoor glare and other interference, SPL100-Pro can work under strong light environment and rain, fog and snow conditions<sup>1</sup>. Multiple built-in operating modes let customers to change its parameters and configuration to meet different applications.



### Main product features

- High frame rate
- IP67 protection
- Small size
- Various interface

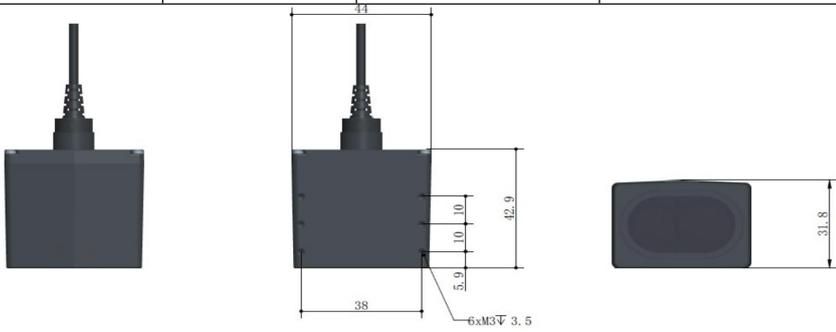
### Main application scenarios

- Vehicle collision avoidance and safety warning
- Traffic flow statistics
- Camera trigger
- UAV assisted takeoff and landing

## SPECIFICATIONS

Parameters		Standard version	RS485/RS232 version
Product performance	Operating range	0.1-100m@90% reflectivity 0.1-40m@10% reflectivity 0.1-80m@90% reflectivity&100Klux 0.1-30m@10% reflectivity&100Klux	
	Accuracy <sup>2</sup>	±10cm (within 10m), 1% (10m and further)	
	Distance resolution	1cm	
	Frame rate <sup>3</sup>	1Hz~1000Hz adjustable (default 100Hz)	
	Repeatability	1σ: <3cm	
	Ambient light immunity	100Klux	



	Operation temperature		-25~60°C		
	Enclosure rating		IP67		
<b>Optical parameters</b>	Light source		LD		
	Central wavelength		905nm		
	Photobiological safety		Class1 (EN60825)		
	FOV <sup>4</sup>		0.5°		
<b>Electrical parameters</b>	Supply voltage		5V~24V		
	Average current		≤150mA @ 5V, ≤80mA @ 12V, ≤50mA @ 24V		
	Power consumption		≤1W		
	peak current		150mA		
	Communication interface level		LVTTTL (3.3V)	RS485/RS232	
	Communication interface		UART/CAN	RS485/RS232	
<b>Others</b>	Dimension		44mm*43mm*32mm(L*W*H)		
	Enclosure material		Aluminum alloy		
	Storage temperature		-40~85°C		
	Weight		89g±3g	92g±3g	
	Cable length		70cm		
<b>Communication Interface</b>	UART/RS485/RS232		Can		
	Baud rate	115200	Baud rate	1000kbps	
	Data bit	8	Data bit	0x3003	
	Stop bit	1	Stop bit	0x3	
	Checksum bit	N/A	Frame format	Standard frame <sup>5</sup>	
<b>Dimensions</b>					

1.Rain, snow and fog conditions generally refer to moderate rain, snow and below. Moderate rainfall < 25mm/24h or < 7.9mm/h

2.The detection range is measured at temperature of 25°C. Accuracy and repeatability are measured with white board (90% reflectivity).



- 3.The highest frame rate can be customized to 10KHz, please contact us for detailed information.
- 4.FOV, field of view, consists of vertical angle and horizontal angle.
- 5.Please check Product manual for detailed information.

## CONFIGURABLE PARAMETERS

Table 1 Configurable parameters example

Configurable parameters	Description	Default setting
Frame rate	Output frame rate could be configured by related command, range 1~1000Hz <sup>1</sup>	100Hz
Communication interfaces	UART/CAN can be switched with command	UART
	RS485/RS232 can be switched with command	RS485
Baud rate	a) Serial port baud rate could be customized b) CAN port baud rate could be customized, CAN ID could be modified	/
Restore default	SPL100-Pro can be restored to the factory settings	/
Save configuration	After defining the configuration parameters, you can send the corresponding command to choose to save the configuration permanently	/

Note: for more configurable parameters and instructions, please refer to the user manual.

- 1.The highest frame rate can be customized to 10KHz, please contact us for detailed information.

## WIRING

Since the product upgrade in Aug. 2020, TF03's wiring has also been upgraded.



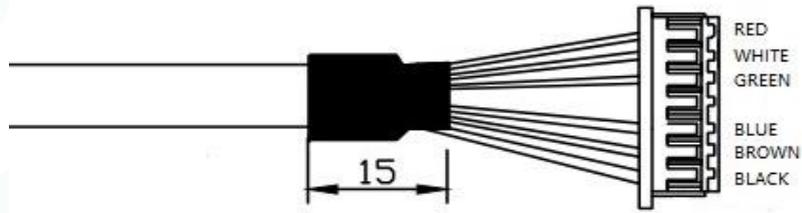


Figure 2 Wiring of new version SPL100-Pro

Below is new version TF03's pin definition and function description.

No.	Color	Standard version		RS485 version	
		PIN	Function	PIN definition	Function
1	Red	VCC	Power	VCC	Power supply
2	White	CAN_L	CAN_L	RS485-B/RS232-RX	RS485-B/RS232
3	Green	CAN_H	CAN_H	RS485-A/RS232-TX	RS485-A/RS232
4	/	/	/	/	/
5	Blue	UART_RX	UART	UART_RX	UART receive(debug) <sup>1</sup>
6	Brown	UART_TX	UART	UART_TX	UART
7	Black	GND	Ground	GND	Ground

1.The UART interface of SPL100-Pro RS485 version is debugging interface. It cannot be used to read detection data.