TF350 Long-range single-point LiDAR

TF350 is an industrial-grade long-range single-point LiDAR. It's designed for intelligent transportation, industrial drones, automobiles, industry and other applications. As a member of TF03 series, multiple communication interfaces are supported in its IP67 high-intensity casing. With integrated compensating algorithm for outdoor glare and other interference, TF350 can work under rain, fog and snow conditions[1]. 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
- Long range
- Various interface

Main application scenarios

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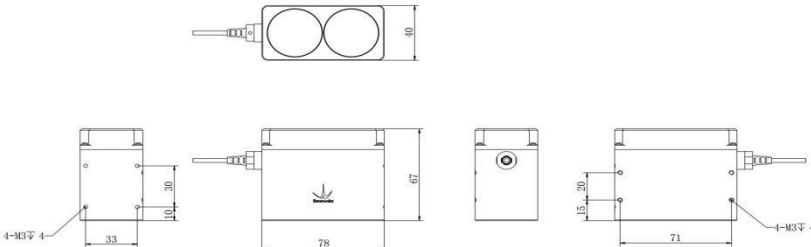- UAV assisted takeoff and landing

SPECIFICATIONS

Parameters	Standard Version	RS485/RS232 Version
Product Performance		
Range (Indoor, no ambient light)	0.2~350m@90% reflectivity 0.2-110m@10% reflectivity	
Range (Outdoor @ 100Klux)	0.2-300m@90% reflectivity 0.2-100m@10% reflectivity	

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

Accuracy[2]	±10cm (within 10m), 1% (10m and further)
Distance resolution	1cm
Frame rate	1Hz~1000Hz adjustable (default 100Hz)
Repeatability	1σ: <3cm
Ambient light immunity	100Klux
Enclosure rating	IP67
Optical Parameters	
Light source	LD
Central wavelength	905nm
Photobiological safety	Class1（EN60825）
FOV[3]	0.35°
Electrical Parameters	
Supply voltage	5V~24V
Average current	≤150mA @ 5V，≤80mA @ 12V, ≤50mA @ 24V
Power consumption	≤1W

Communication logic level	LVTTL（3.3V）	RS485/RS232
Communication interface	UART/CAN	RS485/RS232
Others		
Dimension	78mm*67mm*40mm (L*W*H)	
Enclosure material	Aluminum alloy	
Operation temperature	-25~60℃	
Storage temperature	-40~85℃	
Weight	222g±3g	225g±3g

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

[3] FOV, field of view, consists of vertical angle and horizontal angle.

Cable length	70cm

Dimensions	

Communication Interface		
UART/RS485/RS232	**CAN**	
Baud rate	115200	Baud rate	1000kbps

UART/RS485/RS232		**CAN**	
Baud rate	115200	Baud rate	1000kbps
Data bit	8	Receiving ID	0x3003
Stop bit	1	Sending ID	0x03
Parity check bit	None	Frame format	Default sending frame is standard frame receiving frame support standard frame and extended frame

Configurable Parameters		
Parameters	**Description**	**Default setting**
Frame rate	Output frame rate can be configured by related command, range 1~1000Hz	100Hz
Communication interface	UART/CAN can be switched with command	UART
	RS485/RS232 can be switched with command	RS485
Baud rate	a) Serial port baud rate can be customized b) CAN port baud rate can be customized, CAN ID could be modified	For UART/RS232/RS485: 115200 For CAN: 1000kbps
Restore to defaults	TF350 can be restored to the factory settings	/
Save configuration	Configurations can be saved permanently	/

WIRING				
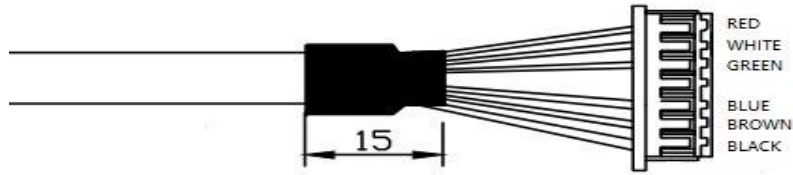
No.	Color	Standard version		RS485 version	
		PIN definition	Function	PIN definition	Function
1	Red	VCC	Power supply	VCC	Power supply
2	White	CAN_L	CAN_L	RS-485-B/ RS-232-RXD	RS-485-B/ RS-232 Receive
3	Green	CAN_H	CAN_H	RS-485-A/ RS-232-TXD	RS-485-A/ RS-232 Transmit
4	N/A	N/A	N/A	N/A	N/A
5	Blue	UART_RX	UART receive	UART_RXD	UART receive (Debug)[4]
6	Brown	UART_TX	UART transport	UART_TXD	UART Transmit (Debug)
7	Black	GND	Ground	GND	Ground

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[4] The UART interface of TF350 RS485 version is debugging interface. It cannot be used to read detection data.