

STA77-5 Automotive radar

PRODUCT MANUAL



WHST CO., LTD.

FACTORY 1, WANCHUN HIGH-TECH INNOVATION PARK, EAST DISTRICT OF ECONOMIC & TECHNOLOGICAL DEVELOPMENT ZONE, WUHU, ANHUI, CHINA

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Revision record

date	version	description	author

2021-11-04	V1.0	initial version	Zhang shaolong
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1. product description

STA77-5 high-resolution long-range radar is a radar product based on 77GHz millimeter wave technology developed by WHST. It has the characteristics of small size, light weight and high performance. STA77-5 can accurately measure the distance, speed and angle of the target vehicle within 210m ahead, and can provide safe, accurate and real-time road condition information on the road ahead. It is suitable for forward emergency braking of vehicles (AEB: Autonomous Emergency Braking) Or forward collision warning (FCW: Forward Collision Warning) and other functions.



Figure 1 STA77-5 Radar product physical map

STA77-5 Main product features of vehicle radar:

- Highly stable radar based on 77GHz MMIC technology;
- The farthest detection range is 220 meters;
- Advanced pulse Doppler system, small size and light weight;
- Using continuous wave radar technology, it can accurately detect target distance, speed and angle information;
- Not affected by weather conditions, fully guarantee driving safety

2. Interface description

Radar equipment terminal connector and wiring harness terminal connector are shown in Figure 4, and the wiring definition is shown in Table 2

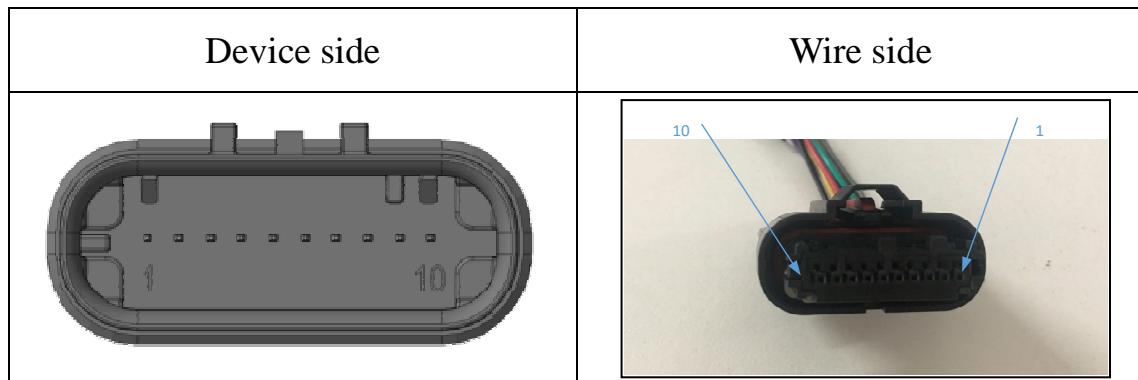


Figure 2 Schematic diagram of wiring

Table 2 Definition of external plug-in pins

NO	Pin definition	Signal function	Note
1	CAN-H	Body CAN bus	
2	CAN-L	Body CAN bus	
3	CANFD-L	CANFD bus	The wire diameter is recommended to be $\geq 0.35\text{mm}$, 3/4 pins are made into twisted pair
4	CANFD-H	CANFD bus	
5	NC		
6	NC		
7	NC		
8	NC		
9	POWER	Power supply positive	9~16V DC
10	GND	Power supply negative	

3. Radar installation method and size

As shown in the radar size diagram in Figure 7, the product size is 106×97.8×27.3mm, and it is directly installed on the car body using reserved three-leg holes to ensure the installation strength. It is recommended to use 3 M5*16 combination screws to fix the radar to the car body mounting hole.

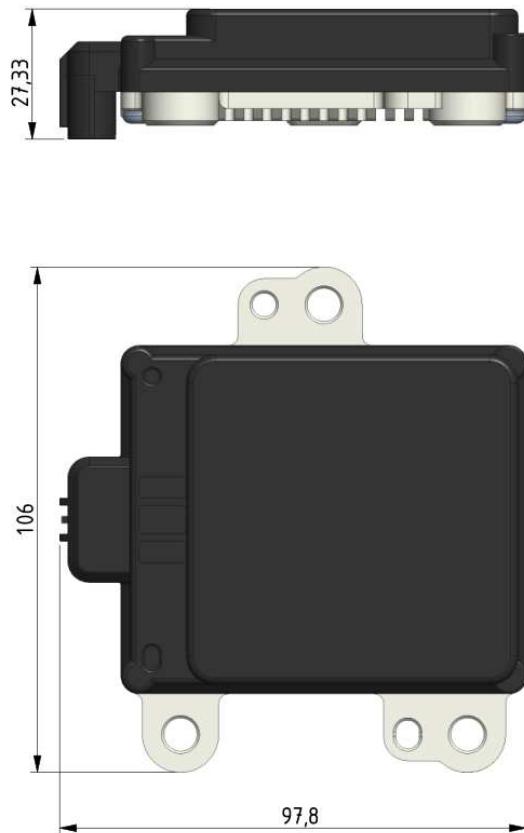


Figure 7 Radar size diagram

It is recommended that equipment should be installed and operated with minimum distance of 20cm between the radiator and your body.

Important: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Maximum Permissive Exposure Statement

This products comply with FCC radiation exposure limits set forth for an uncontrolled environment.