77GHZ PWAS FOR COMMERCIAL VEHICLES

C58(Pro)

40M PWAS PROXIMITY WARNING ALERT SYSTEM

C58(Rro) , 77GHz digital display sensor proximity warning alert system, 40 meter long detection distance, for reminding driver when driving or reversing.

- **Data Logger**
- **Range APP Adjustable**
- **77GHz**
- **6 X 40m**

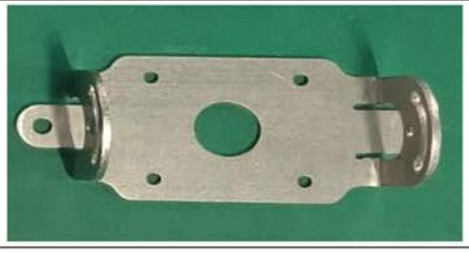
MCU(waterproof)

Heavy duty new sensor

C58 User Manual (for rear installation)

Thank you very much for purchasing our short distance millimeter-wave reversing warning system! This product is suitable for all conventional models. Before using this product, please read this product manual carefully to ensure correct installation and removal. We will be happy to provide you with better products and services!

1.Item List

No.	Item name	Quantity	Photos
1	LED display	1	
2	Sensor	1	
3	MCU	1	
4	Sensor bracket	1	
5	Screws	1	

6	Cable ties	1	
7	2m LED display extensive cable	1	
8	10m sensor extensive cable	2	
9	Main cable	1	

Attention: The brake wire(in yellow) of the main cable cannot be connected to an external power input, otherwise it may cause the chip burnt out.

2. Function introduction

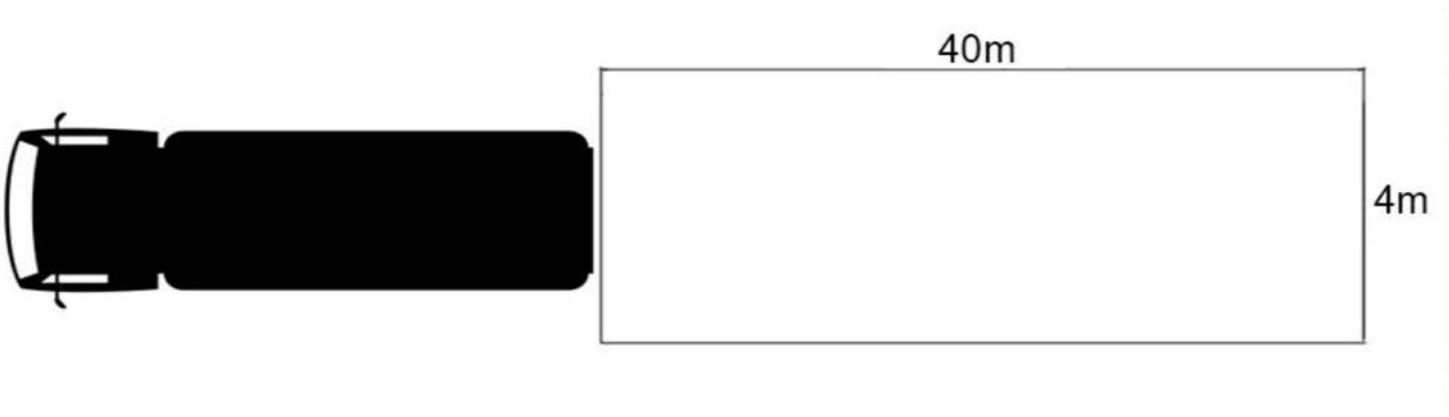
2.1 Working principle

This product is a sensor early warning system equipped with a high-performance 77GHZ millimeter-wave sensor and digital Led display .The product displays the distance data of the reversing obstacle on the digital LED display, and reminds the situation in time through the built-in buzzer of the Led display, so that the driver can accurately grasp the reversing situation.

This product will respond to stationary or moving objects.

2.2 Function introduction

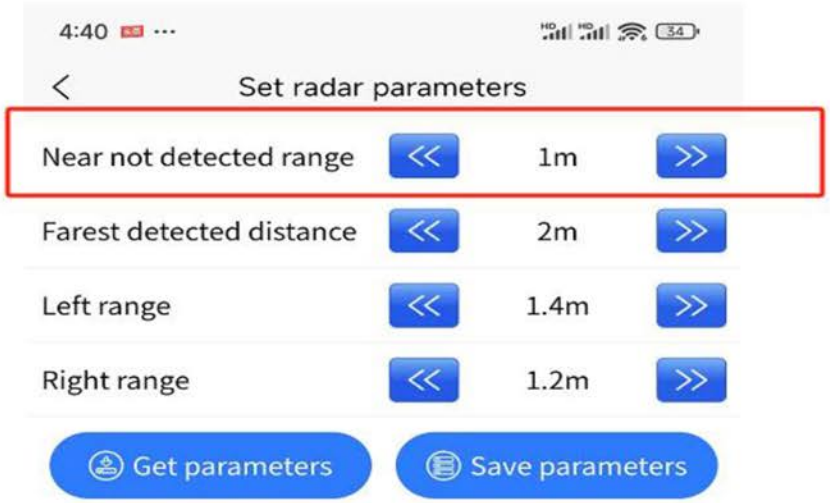
2.2.1 When reversing, the detection range of obstacles is the maximum area of 4*40 m.



2.3 Led display and Warning sound working introduction.

2.3.1 Spare tire setting mode: Press and hold the button for 2 seconds (or 3 seconds) to enter the spare tire setting mode, the digital tube flashes, the default is 0, press once to enter 1 meter, press again to enter 2 meters, press again to enter 3 meters, press again to enter 0 meters, and cycle forward between 0-3. After setting, wait for 1 second (or 2 seconds) to exit the spare tire setting mode.

Important reminder: Please note that when you select the shielding distance of the spare tire through the buzzer button on the control box, such as 1m, it is only successfully set on the software level. You should also use the APP to set the initial detection distance of the sensor to 1m as below , which is considered successful setting.



2.3.2 Buzzer sound control mode: In normal working condition, press the button briefly, the buzzer sound will turn off for 30 seconds, and then the alarm sound will resume (same as before)

2.4 The display and alarm sound of the digital tube are shown as the below chart.

2.4.1 When the spare tire distance is set to 0m.

No.	Approach to obstacles Distance	Zone differentiation	Warning tone	Distance display	Indicator color
7	＞40	Safe area	No	-.-	No
6	10.1-39.9	Safe area	Bi—Bi (0.78Hz)	10.1-39.9	Green
5	7.1-10.0	Safe area	Bi- - -Bi- -- Bi （1.25Hz）	7.1-10.0	Green
4	4.1-7.0	Safe area	Bi- - Bi- -Bi (1.79Hz)	4.1-7.0	Green
3	2.1-4.0	warning area	Bi- Bi-Bi (3.13Hz)	2.1-4.0	Yellow
2	0.6-2.0	danger area	Bi------- （long）	0.6-2.0	Red
1	0.1-0.5	danger area	Bi------- （long）	-P-	No

2.4.2 When the spare tire distance is set to 1.0m.

No.	Approach to obstacles Distance	Zone differentiation	Warning tone	Distance display	Indicator color
8	＞40	Safe area	No	-.-	No
7	11.1-39.9	Safe area	Bi—Bi (0.78Hz)	10.1-38.9	Green
6	8.1-11.0	Safe area	Bi- - -Bi- -- Bi （1.25Hz）	7.1-10.0	Green
5	5.1-8.0	Safe area	Bi- - Bi- -Bi (1.79Hz)	4.1-7.0	Green
4	3.1-5.0	warning area	Bi- Bi-Bi (3.13Hz)	2.1-4.0	Yellow
3	1.6-3.0	danger area	Bi------- （long）	0.6-2.0	Red
2	1.1-1.5	danger area	Bi------- （long）	-P-	Red
1	0.1-1.0	Shielded area	NO(no sound)	-.--	No

2.4.3 When the spare tire distance is set to 2.0m.

No.	Approach to obstacles Distance	Zone differentiation	Warning tone	Distance display	Indicator color
8	＞40	Safe area	No	-.-	No
7	12.1-39.9	Safe area	Bi—Bi (0.78Hz)	10.1-37.9	Green
6	9.1-12.0	Safe area	Bi- - -Bi- -- Bi （1.25Hz）	7.1-10.0	Green
5	6.1-9.0	Safe area	Bi- - Bi- -Bi (1.79Hz)	4.1-7.0	Green
4	4.1-6.0	warning area	Bi- Bi-Bi (3.13Hz)	2.1-4.0	Yellow

3	2.6-4.0	danger area	Bi-------（long）	0.6-2.0	Red
2	2.1-2.5	danger area	Bi-------（long）	-P-	Red
1	0.1-2.0	Shielded area	NO(no sound)	-.--	No

2.4.4, When the spare tire distance is set to 3.0m.

No.	Approach to obstacles Distance	Zone differentiation	Warning tone	Distance display	Indicator color
8	＞40	Safe area	No	-.-	No
7	13.1-39.9	Safe area	Bi—Bi (0.78Hz)	10.1-36.9	Green
6	10.1-13.0	Safe area	Bi- - -Bi- -- Bi （1.25Hz）	7.1-10.0	Green
5	7.1-10.0	Safe area	Bi- - Bi- -Bi (1.79Hz)	4.1-7.0	Green
4	5.1-7.0	warning area	Bi- Bi-Bi (3.13Hz)	2.1-4.0	Yellow
3	3.6-5.0	danger area	Bi-------（long）	0.6-2.0	Red
2	3.1-3.5	danger area	Bi-------（long）	-P-	Red
1	0.1-3.0	Shielded area	NO(no sound)	-.--	No

Remark: LED display (0.1m-0.5m) always show as “P” , Shielded area=Spare tire setting distance.

3. Product Specifications

3.1 Product sizes:

No.	Item	Size
1	Led Display	43*43*20mm
2	Sensor	70*65*23 mm
3	MCU	87*64*25mm

3.2 Technical parameters:

No.	Name	Technical parameter

1	Voltage range	DC 9V-30V
2	Rated voltage	24V
3	Rated current	≤280mA
4	Rated power	≤3.5W
5	Detection range	Length：0.1-40meter Width：0-4.0meter
6.	Sensor Frequency	77Ghz
7	.Operating temperature	-40 - 85 ℃
8	Waterproof	IP67
9	Sensor detection angle	120°

4. Sensor Installation

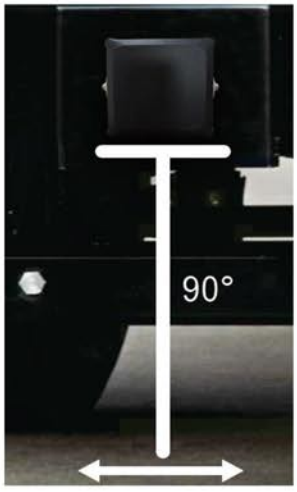
4.1 Sensor installation diagram

Note: If the installation height is relatively low, the sensor measurement may cause false alarms by detecting the ground. You can adjust the elevation angle of the sensor from 0° to about 10° until the problem is solved.

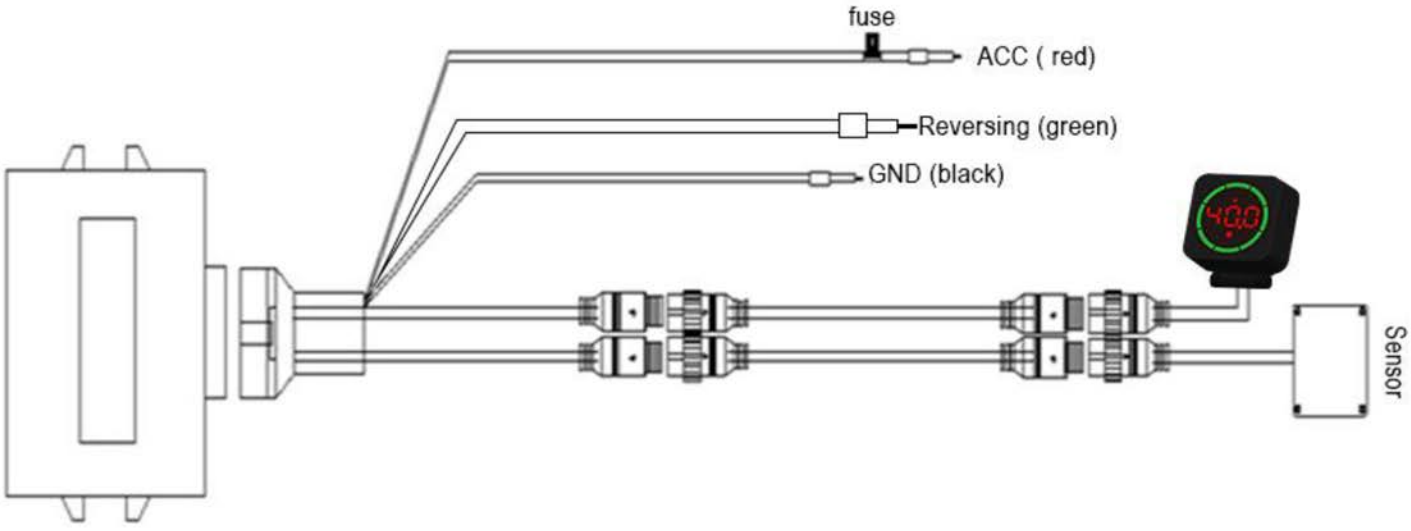
4.2 Sensor bracket installation diagram:

Please take note:

When mounted the radar with the bracket on the vehicle, the radar surface must be vertical to the ground , otherwise it will cause false alarm.



4.3 Wiring diagram:



The item just could be installed on rear of the vehicle:

The red cable connected to ACC

The black cable connected to GND

The green cable connected to reversing light

5. Data logger function

5.1 Data logger function introduce

Our data logger function is built into the control box of the system. Through Bluetooth, customers can connect to our radar sensor through the mobile APP

to set various parameters for sensor detection. For example, customers can adjust the length(0-40m) and width(0-8m) of the detection interval and set the sensor detection shielding value. In addition, our system will record various data generated when the sensor is working: including the number of the sensor, the detection distance, the speed of the target object moving and the working status of the system, etc. Currently, only Android system mobile phones are supported to install our APP, and the adaptation issue for IOS system mobile phones is in progress.

5.2 How to use the App

1. APP introductions

Our “PWAS” APP is used for setting up the radar detection range and checking the radar data log.

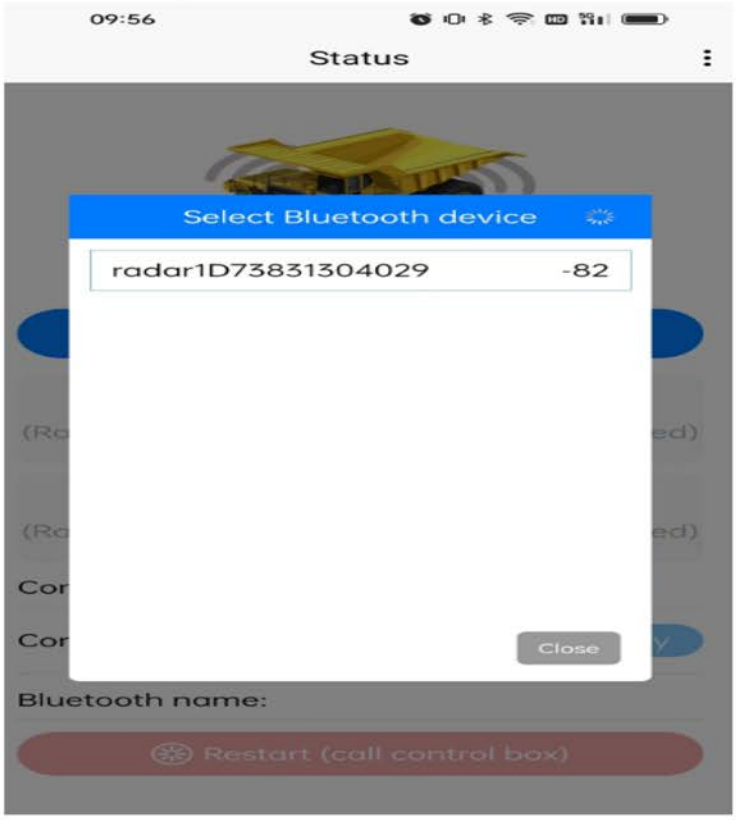
Below is the APP operation steps:

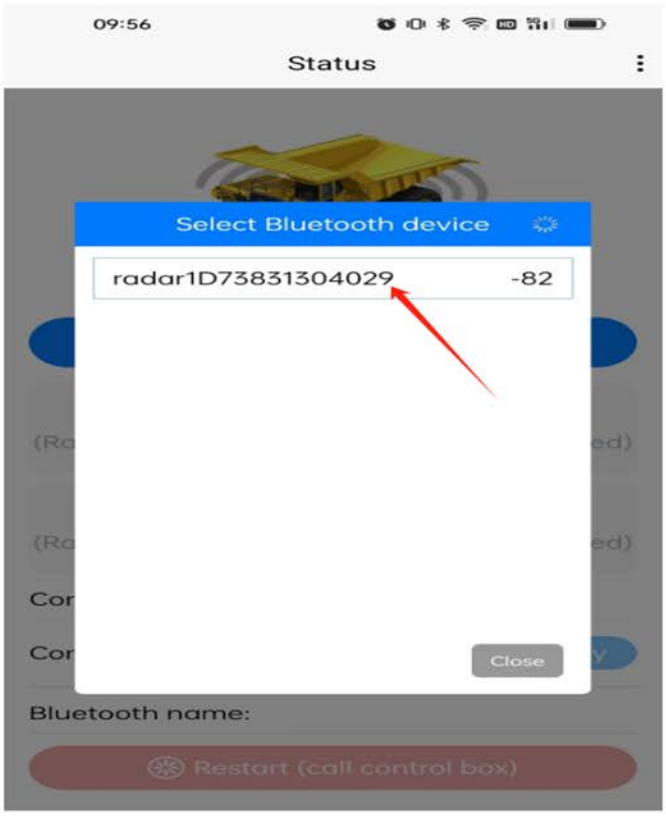
1. Download the “PWAS” APP by your Android mobile;

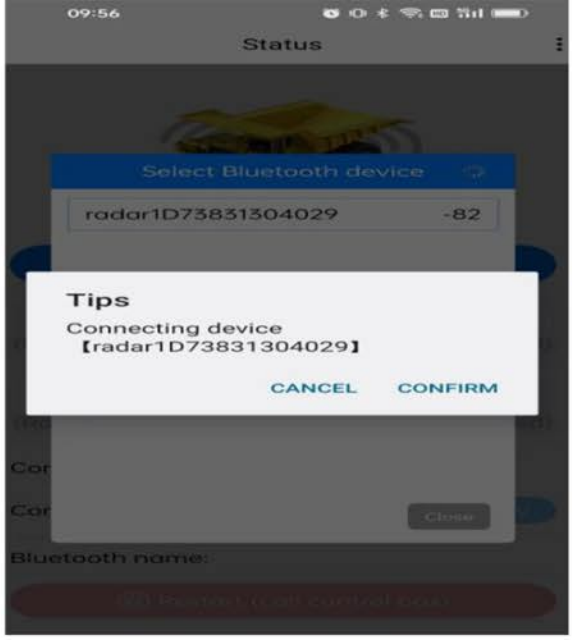
shibo_1.0.4_11_release.apk(1).1

2. Open the “bluetooth” connection on your mobile, and then open the “PWAS” APP, the status will be like so

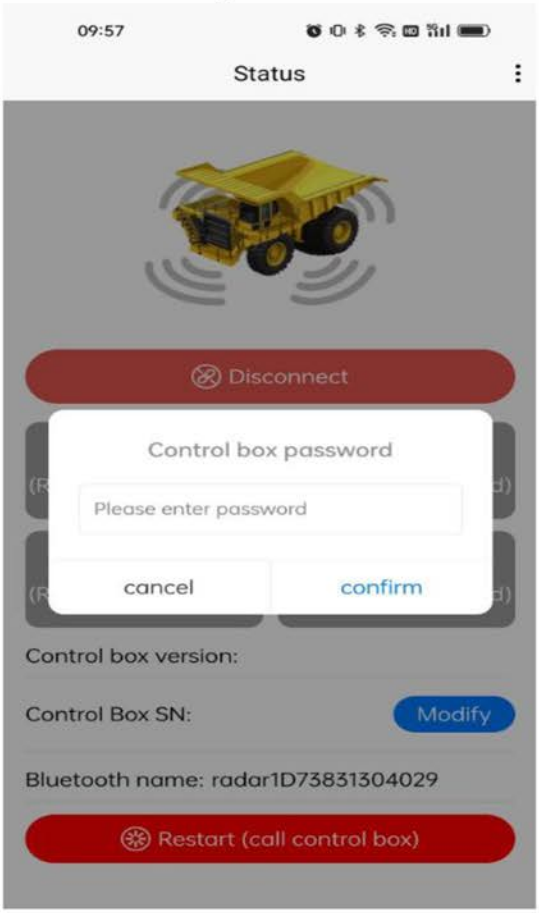
3. Connect Control Box, the APP will recognize your bluetooth device, clicking on the recognized bluetooth name, choosing confirm to enter







4. When entering the control box, you will need to input the code: 0000 , and then confirm,

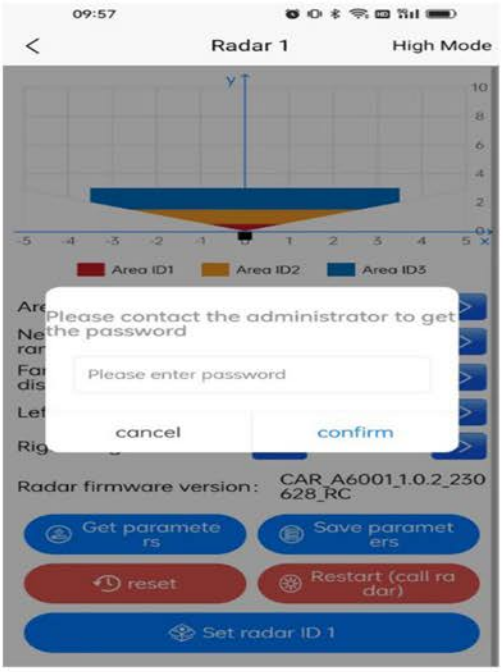


5. Enter into the control box, you will see the interface status, if the system is with 1 front radar, the radar 1 background will be blue, which represents the front radar is connected; if it is with 1 rear radar, the radar 2 background will be blue,which represents the rear radar is connected. If the system is with 1 front radar and 1 rear radar, the radar 1 and radar 2 backgrounds will be blue, which represents the front and rear radars are connected successfully.

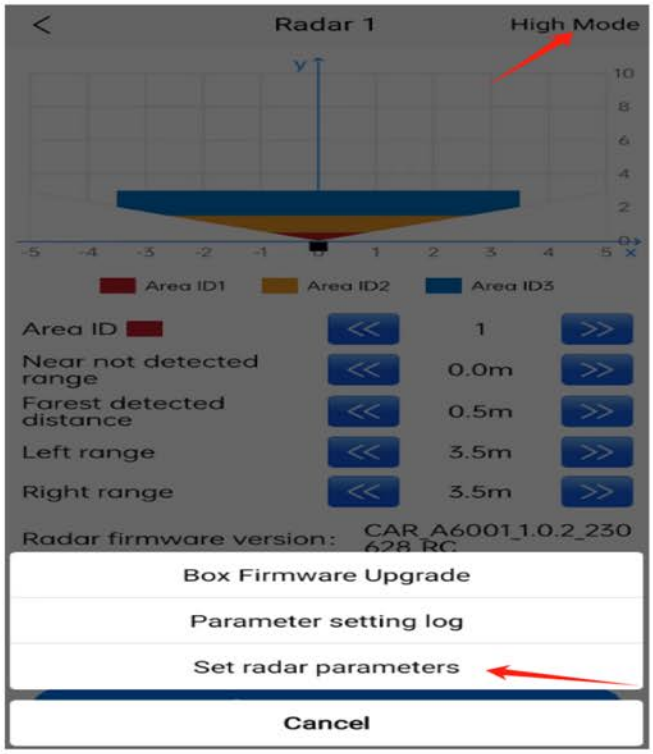
The below picture is for front and rear radars connection status:

The Control box serial number can be set up according to your need. It only supports 6 digits(including alphabet).

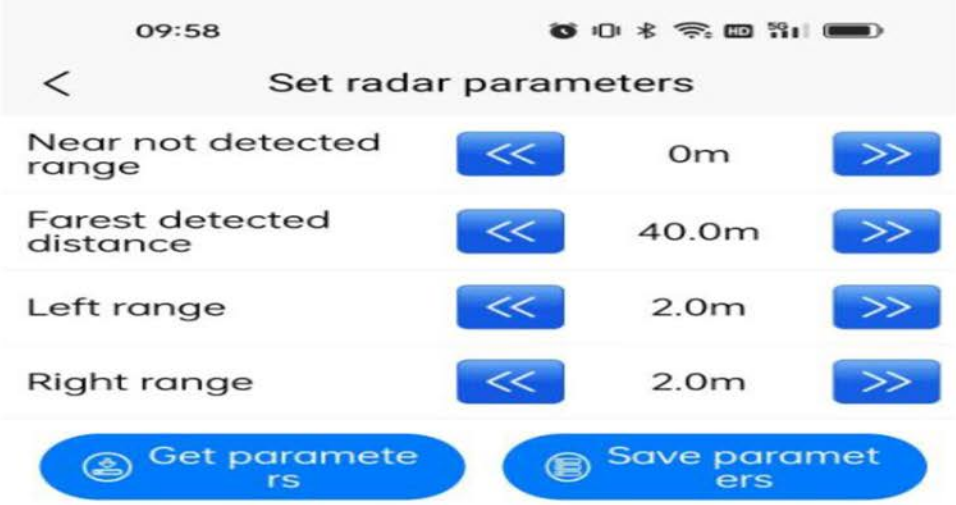
6. For radar detection range setting, if you want to set up the radar distance for front radar, then click on Radar 1, and then, you will need to input the corresponding code. The front two codes are “12”, the middle four codes are based on the current month and date, the last two codes are “34”. For example, today is May 23rd, switching to digit is “0523”, thus, the complete code is “12052331” . If today is Oct.10th, switching to digit is “1010” , then the complete code is “12101034”.



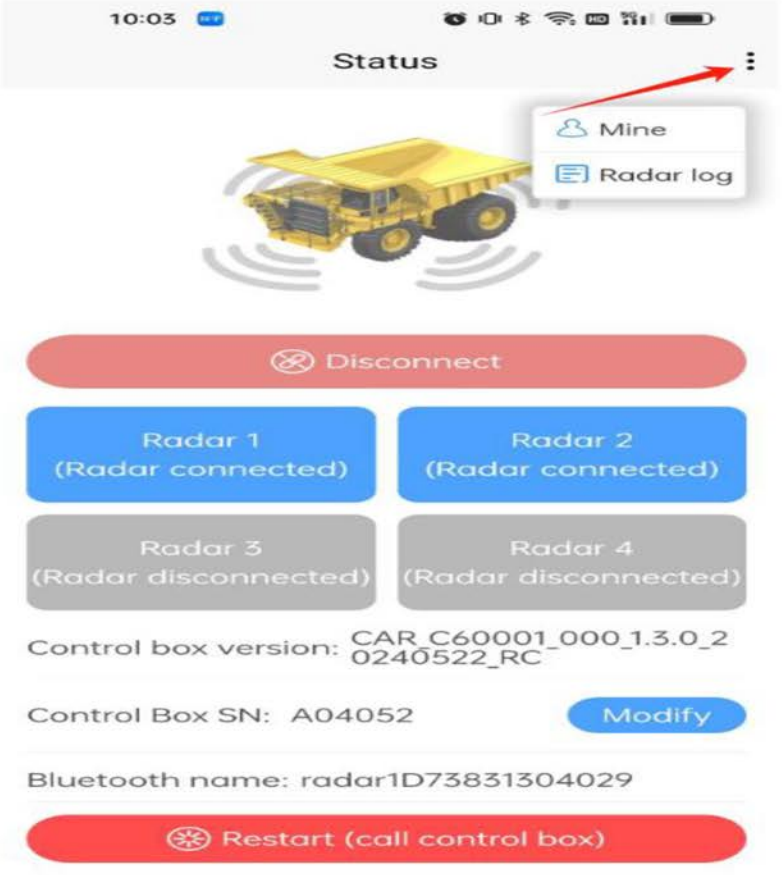
7. After entering the interface of Radar 1, click on the “High Mode”, and then click on” Set radar parameters”, like below picture instructed.



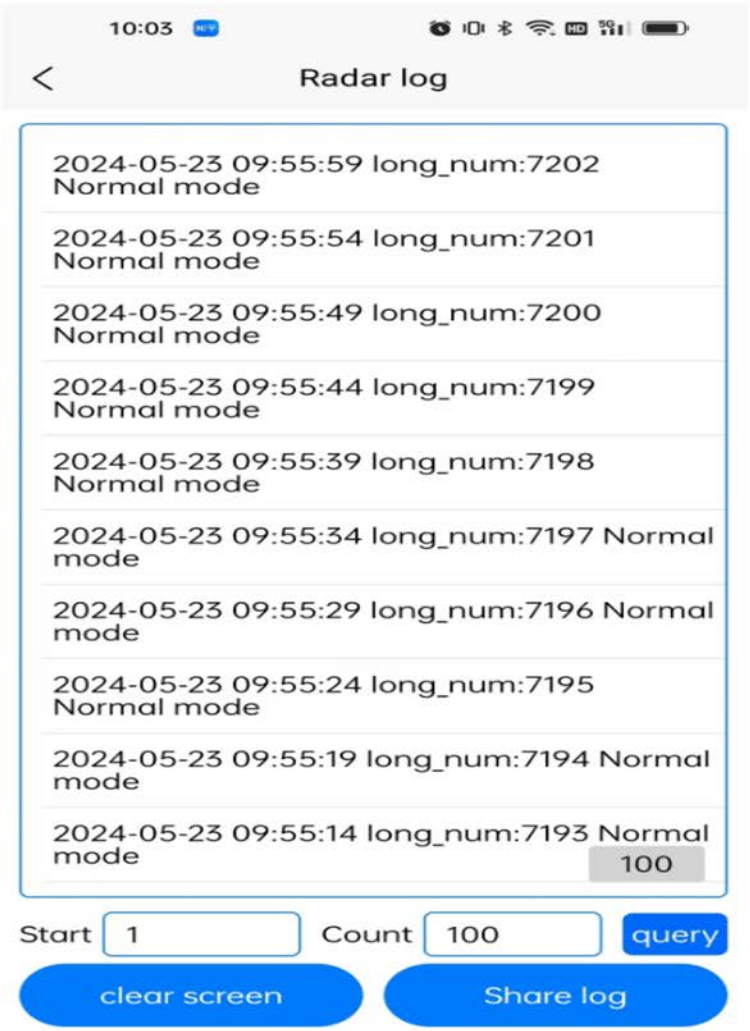
8. Like the below picture shown, now, you can set up the radar detection range. The farest detected distance is for length setting. 40m is the farest detection distance. If you want to set up shorter distance, like 20m, then you can long press or short press the button  . Increasing the distance is to press this button  . The Left range and right range is for setting up the width. The maximum width can be 10m. After finishing the set up of radar detection distance, then click on the button” Save parameters”. Our default radar detection range is 40m for length, 4m for width. Just like the picture shown.



9. The radar data can be checked from the ” Radar log”. Seeing the below pictures, to click on the ”Radar log”, input the digit qty that you want to check, and then click on “ query”. The data will come out then. The data log can also be shared to others by clicking on the “ Share log”. If you want clear the checked data, just click on the button ” Clear screen”.




10:03
Radar log
0
Start 1
Count 10
query
clear screen
Share log


10:03
Radar log
2024-05-23 09:55:59 long_num:7202 Normal mode
2024-05-23 09:55:54 long_num:7201 Normal mode
2024-05-23 09:55:49 long_num:7200 Normal mode
2024-05-23 09:55:44 long_num:7199 Normal mode
2024-05-23 09:55:39 long_num:7198 Normal mode
2024-05-23 09:55:34 long_num:7197 Normal mode
2024-05-23 09:55:29 long_num:7196 Normal mode
2024-05-23 09:55:24 long_num:7195 Normal mode
2024-05-23 09:55:19 long_num:7194 Normal mode
2024-05-23 09:55:14 long_num:7193 Normal mode
100
Start 1
Count 100
query
clear screen
Share log