Installation and operating instructions

Issue 06.2022

Radar distance warning

you choosing a product from our company. Our products are manufactured to the highest standards of quality, functionality and design and comply with all necessary guidelines. Please read these instructions carefully before installation and commissioning to avoid installation and operating errors.

We hope you enjoy your product.

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CONTENTS

PRECAUTIONARY MEASURES

Storage and operation

1. Do not expose the device to excessive heat or cold. The storage temperature of this device is -30~+80℃, and the operating temperature is -20~+70℃. The permissible is RH90%.
2. Never use this device in environments with excessive moisture, dust or smoke. (see IP69K or IP66)
3. Avoid dropping the appliance or hitting it.
4. This appliance must not be punctured, scratched or cleaned with abrasive cleaners.
5. Do not lay the cables in places where they can be pinched or stepped on. Avoid thermal and chemical damage.

Precautionary measures during operation

1. The device can be supplied with power via a 12 or 24 volt car battery or the 's electrical system. Observe the installation regulations regarding electrical systems in vehicles in your country (e.g. Germany, so-called VDE guidelines).
2. Avoid overvoltage or undervoltage in the system to prevent failures and damage.
3. The system should checked for proper function before each use of the vehicle. This will help you avoid accidents and dangerous situations.
4. Work on electrical systems may only be carried out by persons with the appropriate expertise. If you do not have this expertise, please contact a suitably qualified company.

ATTENTION

1. Do not open the housing of the appliance. This may result in damage, injury or death due to electrical voltage and current.
2. This radar system is only intended to assist in driving the vehicle. It does not replace any of the driver's tasks, duties or senses, so that monitoring by the driver is always necessary despite the installation of the system. Comply with the legal regulations. This serves to prevent accidents!
3. Seal any unused system connections.
4. Open cable ends must be insulated to prevent short circuits.

TO THIS GUIDE

- ► Read these instructions carefully and follow all instructions given.
- ► Pay particular attention all safety and warning notices.
- ► Keep these instructions with the product and pass them on to third parties if necessary.

Damage by non-compliance with the instructions will invalidate warranty. We accept no liability for consequential damage resulting from this.

HELP WITH PROBLEMS / HOTLINE

- ► Please contact our hotline if you encounter any problems during installation or if the instructions are unclear. Especially before you try anything that could damage the product or your vehicle. You can also contact our hotline if you have any other questions about one of our products.

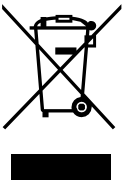
Hotline for technical questions and help with installation problems: +49 (0231) 880 840 - 10

DISPOSAL

Disposal of electrical and electronic devices

Electrical and electronic devices must not be disposed of with household waste.

- ► Hand in old appliances at municipal collection points.
- ► Observe the national regulations for disposal in your country.



PRODUCT FEATURES

- Resolution up to 1080P
- Current microwave radar technology
- Acoustic warning signal (beeper)
- High-quality workmanship guarantees operation under the most adverse conditions (see notes)
- 0.1-20m detection range
- Up to 5 radar ranges simultaneously
- Graphic display on monitor with colour gradation (far, medium, near)
- Automatic switch-on when reverse gear is engaged (follow instructions!)
- Customised adjustment of the sensor system for your needs
- Configuration via smartphone and PC (app and software link in instructions)
- Plug-and-play thanks to universal CGS 4-pin connection
- Detects both static and dynamic objects (standing and moving better?)

TECHNICAL DATA

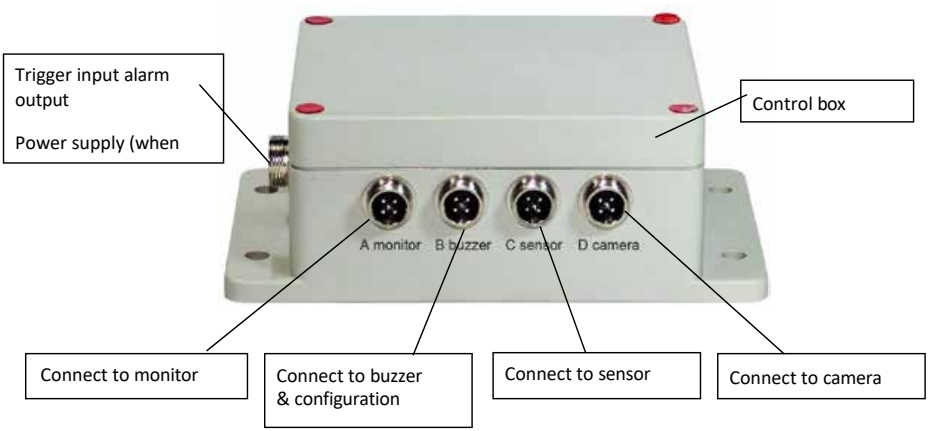
- Radar frequency: 24.00. 24.20GHz.
- Modulated continuous wave radar (FMCW)
- Power supply: 10-32V DC.
- Detection range: 0.1. 20m, up to 5 detection zones (distance of each zone can be configured). width adjustable from ±0.1 to ±10m (0.2 to 20m).
- Colour coding of the detected distances on the display: green (far), yellow (medium), red (near)
- Distance tolerance: +/-30cm.
- Beam angle: 100° (horizontal), 40° (vertical).
- 1 trigger input (+10V DC)
- 1 alarm (audio) output (~1A)
- 1 video input and 1 video output with format: 720P (25fps/30fps) to 1080P (25fps/30fps)
- Wi-Fi module: 2.4GHz (optional)
- Temperature range (operation): -20°C to +70°C.
- Temperature range (bearing): -30°C to +80°C.
- Protected to IP69K (sensor), IP66 (control box)
- Shock resistance: 5.9G
- Dimensions(W*H*D): Sensor 106.6*72.6*32.6mm; Control box 152.6*89.2*53.8mm
- Weight: 154.6g (sensor) 240g (control box) 4-gang camera switch box (art. no. RUU24)

SCOPE OF DELIVERY

Attention! "Optional" means that it is an optional accessory.

- Sensor cable (4-pin CGS, female to male) 3m red ends
- Monitor cable (4-pin CGS, female to female) 3m black ends
- Camera cable (4-pin CGS, female to male) 3m black ends (optional)
- Extension cable (4-pin CGS female to 4x open) 1.5m
- Sealing caps
- Warning buzzer
- Siilikonpad
- USB to UART cable
- Y-cable for operation of 2 sensors (4-pin CGS, female to 2x male) 3m red ends (optional)
- Holder for sensor for fine adjustment (optional)

CONNECTION DESIGNATION



1 **Trigger input**
Alarm (audio) output Power supply
2 **Monitor**
3 **Warning buzzer and interface during configuration**
4 **Sensor**
5 **Control box**
6 **Camera**
7 **Sensor**

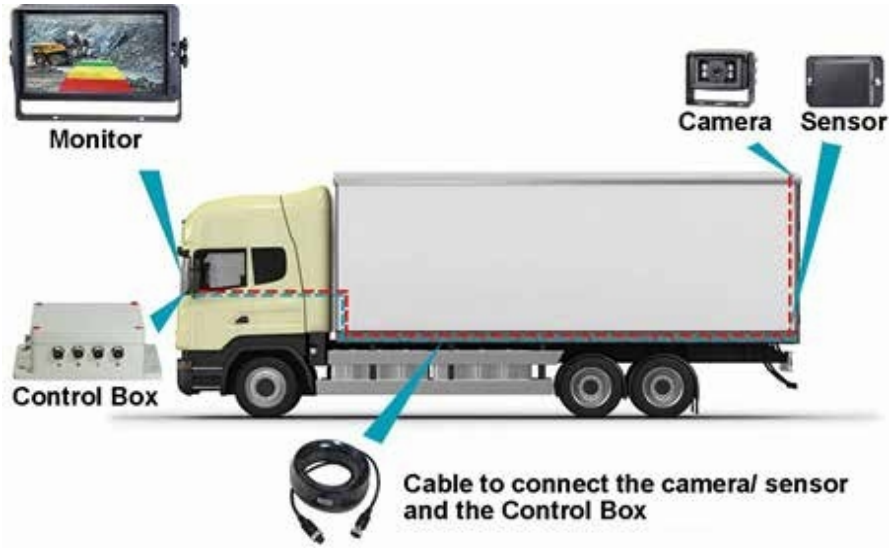
ASSEMBLY

Firstly, check the contents of the shipping parcel and sure that the following items are included:

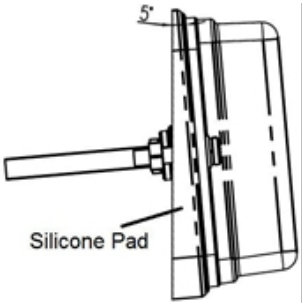
Some accessories may be excluded if they are optional.

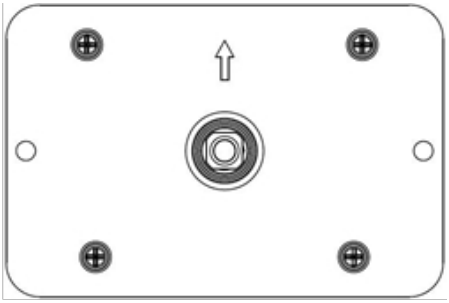
- ► 1 or 2 - Sensor(s)
- ► 1 - Control boxox
- ► 1 - Warning buzzer
- ► 1 - 1.5m extension cable
- ► 1 - 3m monitor cable
- ► 1 - 3m sensor cable with red ends
- ► 1 - 0.9m USB-to-UART cable

Mounting the sensor

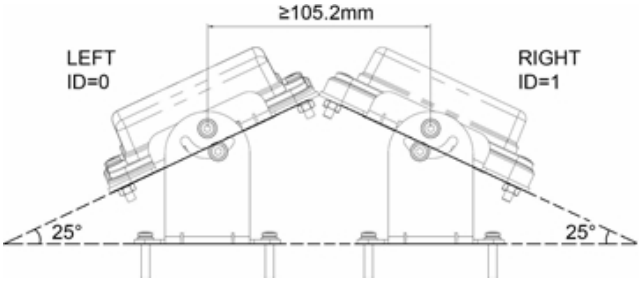


The mounting location of the radar sensor is important for proper operation. Ideally, the sensor should be mounted in the rear centre of the vehicle approximately 1 m +/- 0.3 m above the ground and with an elevation angle of 5 degrees upwards to avoid ground interference. The arrow on the back of the sensor must point upwards.





If two sensors have to be detected together, the sensors should be mounted horizontally at an angle of 25 degrees, as shown in the following illustration.

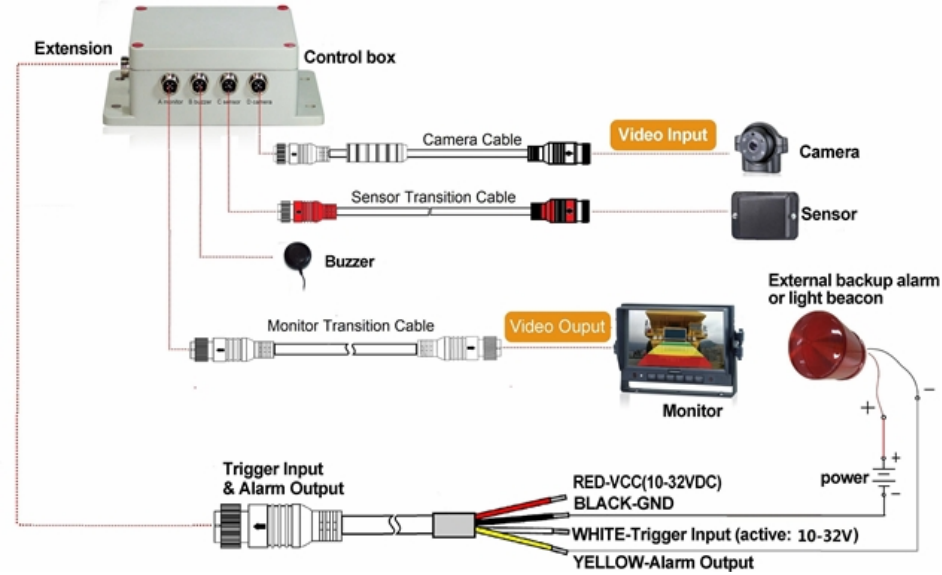


It can be tilted horizontally at a specific angle using a sensor holder (optional).

Important! Before the RADAR DETECTION SYSTEM is permanently installed on the vehiclecheck that the installation location of the sensor offers a free detection area. attach the sensor to the proposed installation location, switch on the system and that nothing is detected.

System connection diagram (2 ways)

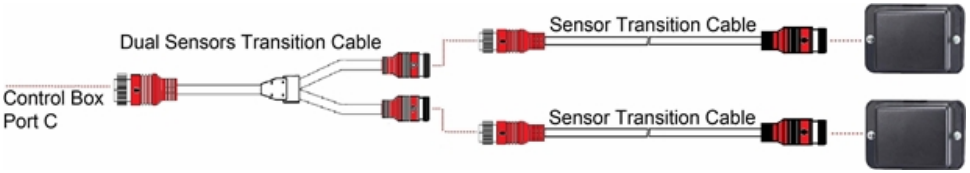
Integration into the video system



Connection A for monitor (via 3m monitor cable (optional))Alarm (audio) output

Connection B for warning buzzer

Connection C for radar sensor (via 3m red sensor cable for one sensor and 3m Y-cable for two sensors)

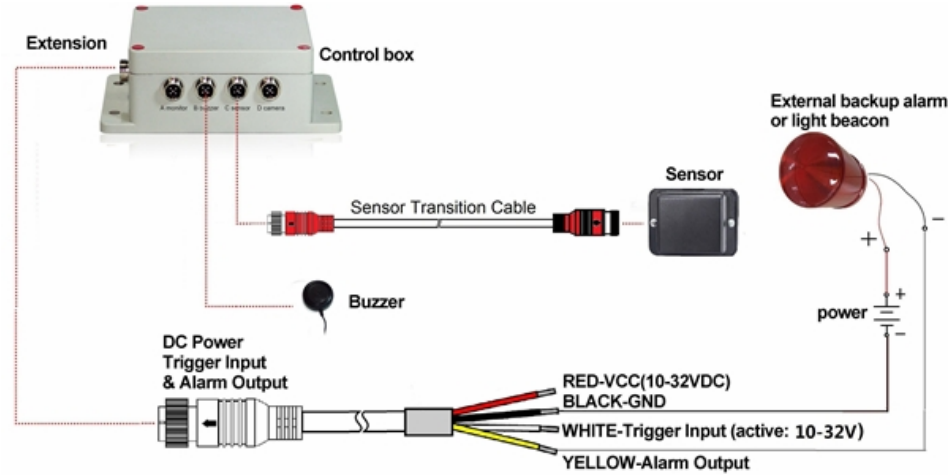


Connection of two sensors (optional)

Connection D for reversing camera (3m camera cable)
Connection E for extension cable (1.5m extension cable, red: 10-32VDC, black: earth, white: trigger input, yellow: alarm output)

The entire system is powered by the vehicle's direct current source.

Stand-alone system without video system



Connection A (reserved, use a plug seal for IP protection)

Connection B for warning buzzer

Connection C for radar sensor (cable 3m sensor cable red for one sensor, and cable 3m Y-cable for two sensors)

Connection D(reserved, a plug seal for IP protection)

Connection E for extension cable (1.5m extension cable, red: 10-32VDC, black: earth, white: trigger input, yellow: alarm audio output)

Trigger input

► The system has an auxiliary input to which an external signal is applied to change the sensor status between standby and active. When using the reversing sensor, the single white wire of the extension cable is connected to the positive power line of the reversing light.

Alarm audio output

► The system has an auxiliary output that triggers an external device as soon as the sensor detects an object. This output can be used to activate an external backup alarm or a light beacon. The output is switched from a high resistance state to ground when activated and is protected against overcurrent or short circuit. The maximum operating current is approximately 1 ampere. The supply voltage for the alarm must not exceed 24 V.

HINTS AND TIPS FOR OBJECT RECOGNITION

Tips

Radar works according to the line-of-sight principle and is based on the fact that part of the electromagnetic energy emitted by the sensor is reflected back from the object to the sensor. If an object does not enough electromagnetic energy back to the sensor, it is not detected.

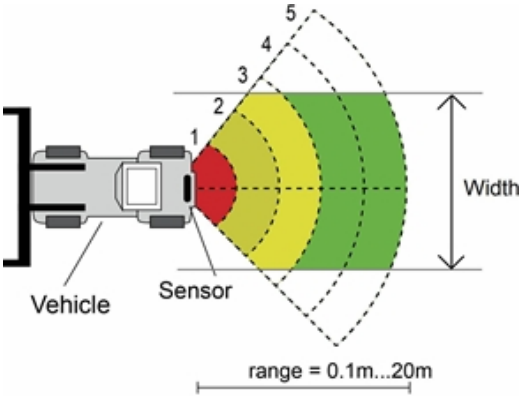
If there are several objects in the detection area at different distances and/or angles, the sensor recognises the closest object that is most important for collision avoidance.

The type of object, its location and its direction are decisive for whether an object is recognised or not. The influencing factors are listed below.

- **Size:** Large object surfaces are recognised better than small ones.
- **Material:** metallic objects are recognised better than non-metallic objects**.**
- **Surface:** A smooth and solid surface is better recognised than rough, uneven, porous, fragmented or liquid surfaces, e.g. bushes, gravel, water
- **Shape:** A flat object is recognised better than a complex shape.
- **Angle:** An object that is pointed directly at the sensor (perpendicular, pointing with the head towards the sensor) is detected better than an object that is located at the edges of the detection area or at an angle.
- **Distance:** Near objects are recognised better than those that are further away.

Interpreting detection signals

The system provides the operator with visual and acoustic warnings of a detected object. As soon as an object enters the zones, it activates a transparent visualisation to alert the operator to the potential danger. The distance to the detected object is with five coloured zones on the monitor. The distance between the individual zones and the width can be customised



The buzzer emits an acoustic warning signal in the form of a "beep", the frequency of which increases when an object is . The monitor's internal buzzer can also trigger an alarm.

Condition	Monitor	Warning buzzer
No Object Detected	—	off
Zone 5	green	Bi-Bi-Bi
Zone 4	green	BiBi-BiBi-BiBi
Zone 3	yellow	BiBiBi-BiBiBi-BiBiBi
Zone 2	yellow	BiBiBiBiBiBiBiBiBiBiBiBi
		B i
Zone 1	red	Continuous sound

PC CONFIGURATION PROGRAMME

System requirements

The system requires a PC with a USB port and the software environment with . NET Framework 4.6.2 (or newer) and the Microsoft Visual C++ Redistributable package.
NDP462-KB3151800-x86-x64-AllOS-ENU.exe (download from the Microsoft homepage) https://www.microsoft.com/en-us/download/details.aspx?id=53344
vc_redist.x64.exe or vc_redist.x86.exe (download from the Microsoft homepage) http://www.microsoft.com/en-us/download/details.aspx?id=48145
The configuration tool is compatible with Microsoft Windows 7 or newer (32-bit or 64-bit).

Installing the software

The installation of the software requires two steps. Firstly, the installation of a driver for the connection between the USB and serial interface and

Secondly, the installation of the configuration programme itself. The installation files can be found in the supplied archive.

Installing the USB driver for the serial interface

A USB driver for the serial interface is required for communication between the PC and the control box. We the driver. You can also download the driver from the official SILICON LABS website. https://www.silabs.com/products/development-tools/software/usb-to-uart-bridge-vcp-drivers The driver provided by us should be installed before the connection between the USB and serial port and the PC is established.
Double-click on "CP210xVCPInstaller_x64.exe" (64-bit system) or "CP210xVCPIns- taller_x86.exe" (32-bit system) to start the installation of the USB driver.

Continue with Next

and accept the licence terms. Continue with Next.

After completion, you can finish the installation by clicking "Finish".

If you have plugged the cable into the PC during the setup installation, please unplug the cable and
plug the cable back in so that the system recognises the device.
Plug the USB-to-serial adapter into the USB port of the PC. Windows should recognise the driver as Silicon Labs CP210x USB to UART bridge. Go to the device manager and search for the device "Silicon Labs CP210x
USB to UART Bridge" device and the COM port number assigned by Windows.

Installing the configuration tool software

Extract the.exe file from the archive (zip, rar, gz, 7-zip) into a directory of your choice and start the "Configuration Tool.exe" on the PC.

Using the configuration tool software

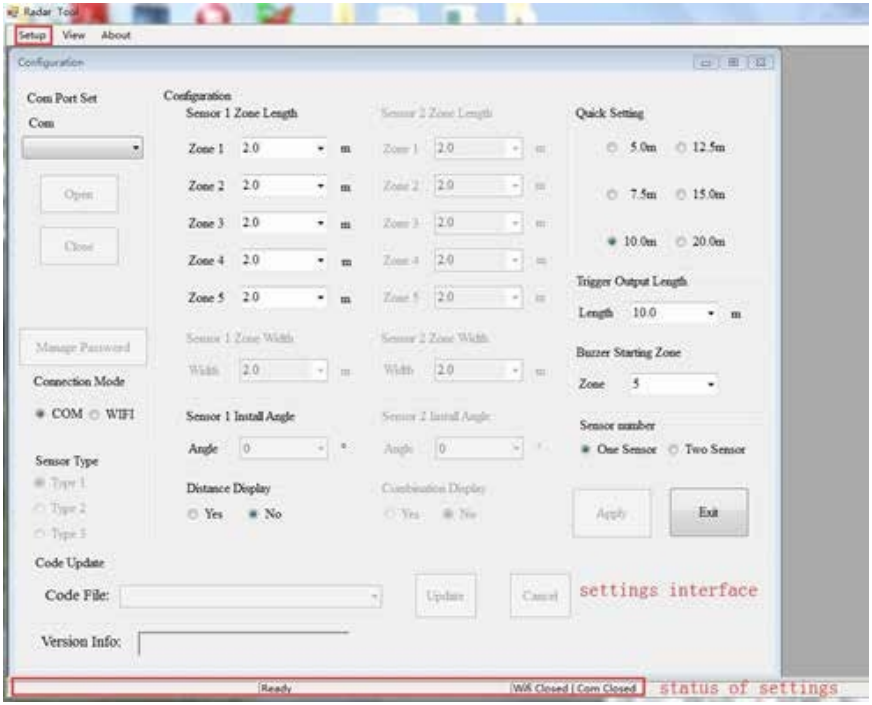
There are two ways to connect the control box. You can establish a connection via Wi-Fi (optional function). Or you can also connect the B connection (B buzzer) of the control control box to the PC via a USB-to-serial cable.

⚠ WARNING

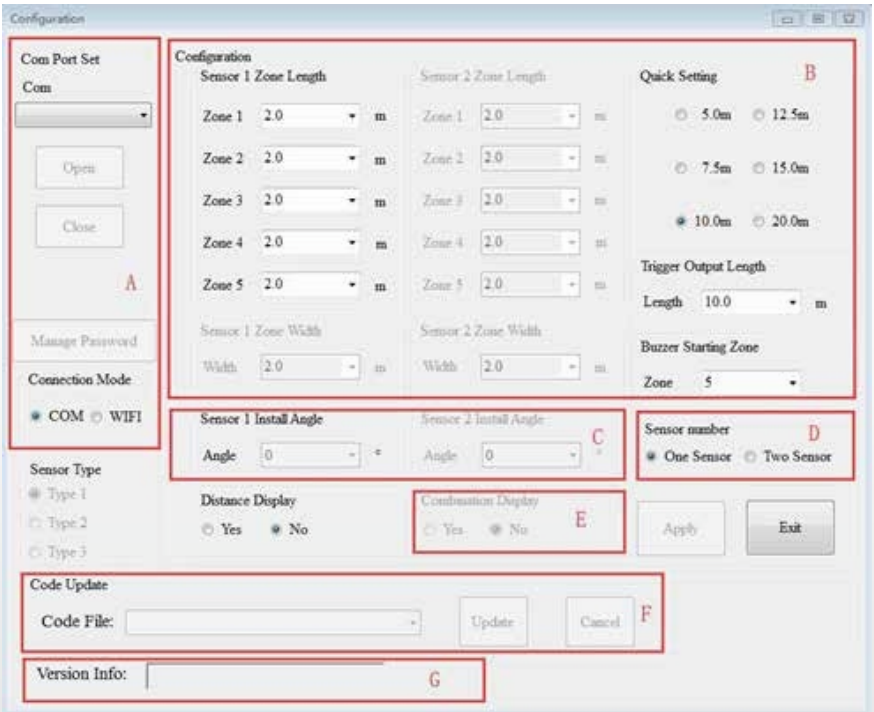
Before connecting, make sure that the control box is supplied with power and that the trigger input line is at low level (or do not connect). Also make sure that all connections are correct.

User interface

The user interface of the configuration tool is described below.



Click on the "Setup" button in the top bar to display the setup interface.
The bottom bar is a status bar.
bar, which displays the connection status and the application status.



The settings interface is divided into several parts.

Part A is the connection setup. Select the COM port number for the connection when you select COM mode. If you select Wi-Fi mode, the interface to Wi-Fi Port.

You can set the Wi-Fi password with "Manage Password".

Part B is the control box configuration with which you set the length and width of the detection area (type 1 sensor cannot be set), the length of the trigger output and the start zone of the buzzer.

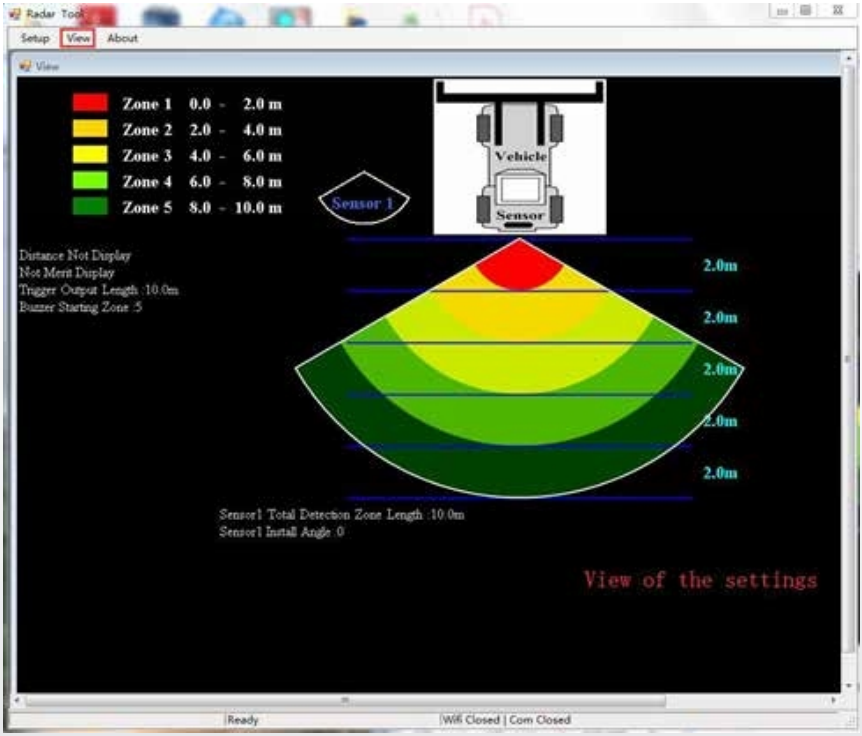
Part C shows the installation angle of the sensor.

The number of sensors used by the control box is set in **part D**.

Part E, the combination display option is available, but only if you are using two sensors combination detection.

Part F is the update function.

Part G is the version information, which the current version of the firmware.



Click on the "View" button and the radar graphic is displayed at the top. It changes depending on your settings.

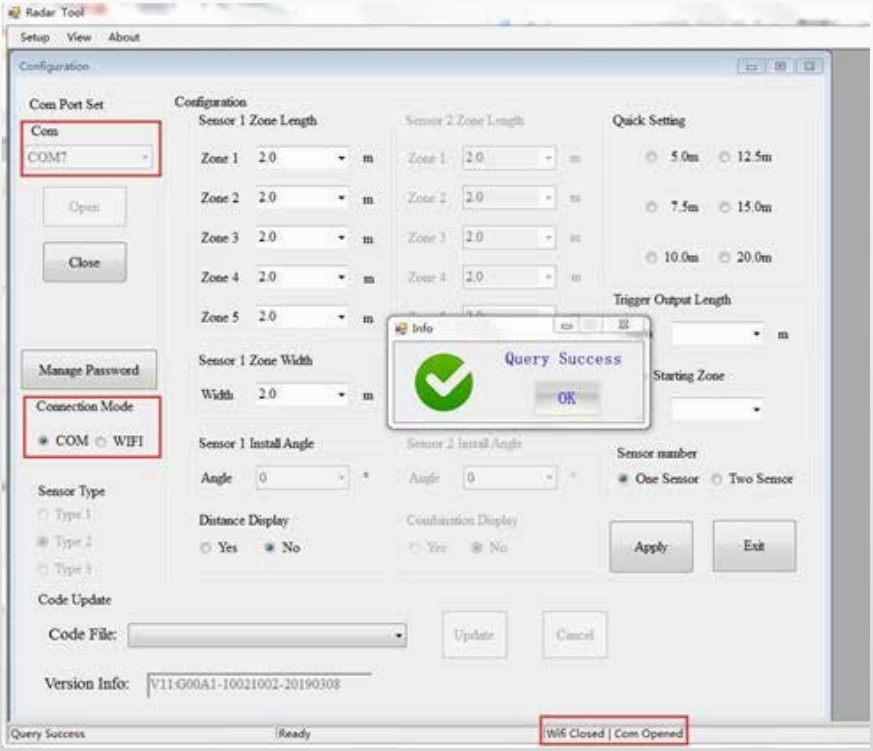
If you click on the "About" button, the version number of the configuration tool is displayed.

Connection to the control box

Via USB-to-UART cable

Select the COM mode. To check the number of the COM port you want to check for the connected control box on the PC, you need to open the "Device Manager" of Windows. In the "Device Manager window, click on "Ports (COM & LPT)" and select "Silicon Labs CP210x USB to UART Bridge (COM##)". The "##" stands for the number of the port via which the display is currently connected to the PC. Select the previously identified COM port from the drop-down list and then click "Open". When the connection successfully established, "Com Closed" is changed to "Com Opened" in the lower status bar.

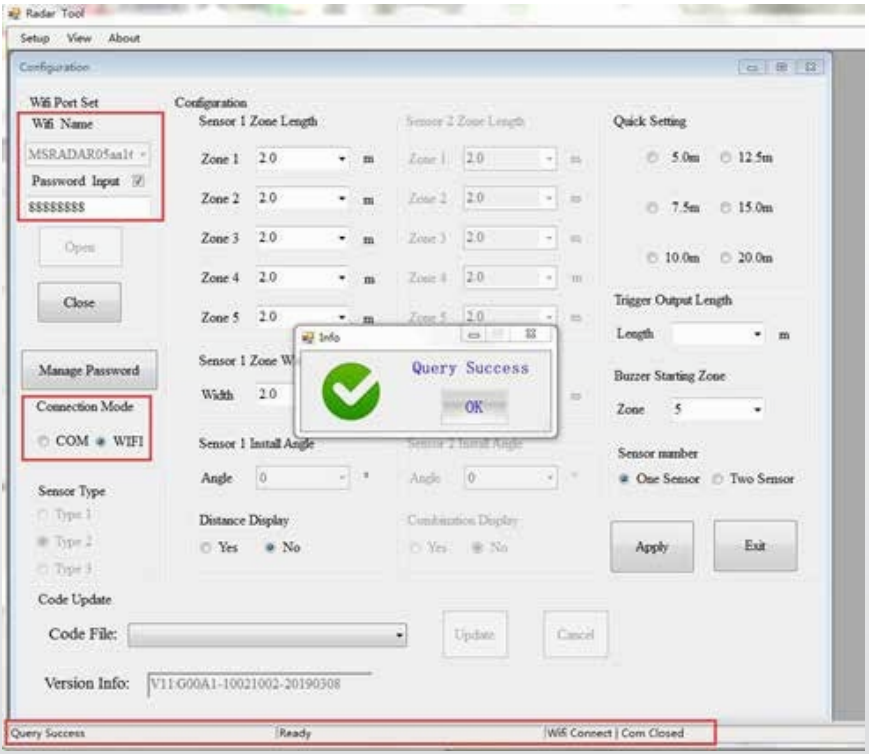
The COM port must be set up each time the configuration programme is opened.



Connect via Wi-Fi

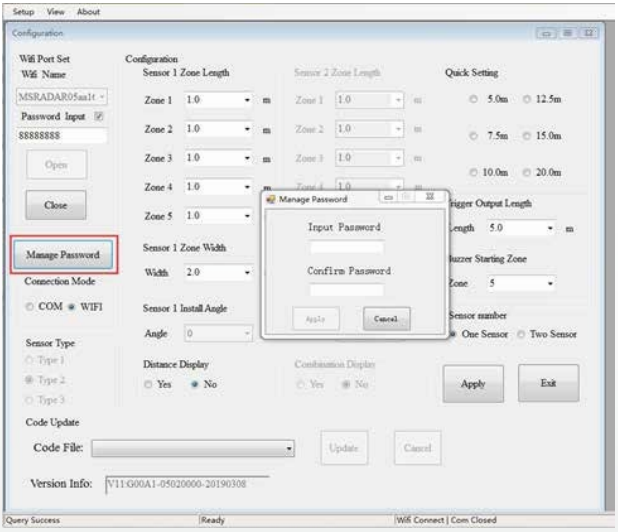
Select Wi-Fi Mode. Click on Wi-Fi Port Set and search for the Wi-Fi account as "MSRADAR##".

"##" stands for six bits of numbers. Each control box has its own account. Select the account and enter the password, then click on "Open" and the connection will be established automatically. The connection takes a maximum of one minute and displays "Wi-Fi Connect" in the lower status bar after completion.

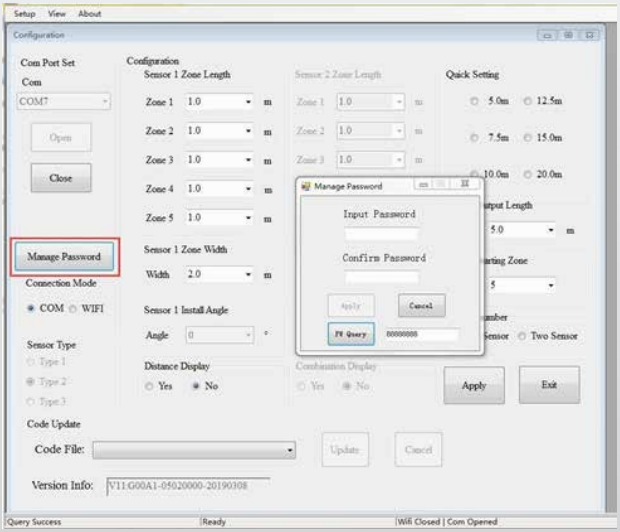


A pop-up window displays "Query Success" when you have finished the connection.

The default Wi-Fi password is 88888888. You can change the password using "Manage Password".

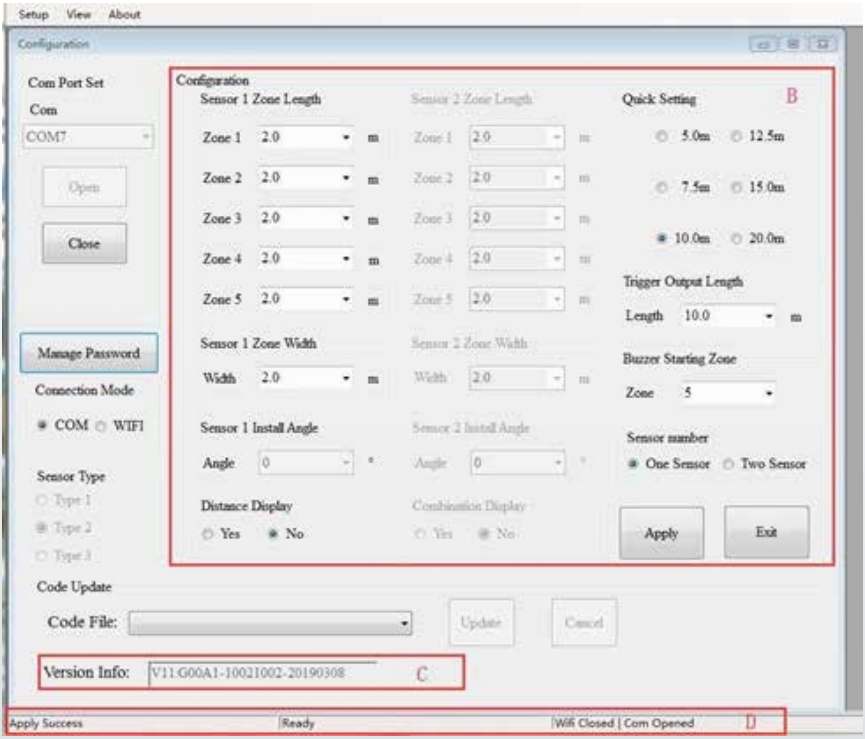


If you have forgotten it, you can query it under "Manage Password" of COM Port Set. Click on the "FW Query" button and it will be displayed.



Reading the configuration from the control box

When you on the "Open" button via COM or Wi-Fi, the configuration programme sends a query command to the control box and reads the configuration data from the control box. Once the configuration has been successfully read, the latest configuration data is displayed in Part B, the firmware version is displayed in C and the connection status is displayed in Part D.



⚠ WARNING

Please maintain the connection between the control box and the PC while using the configuration programme.

Setting the detection range

Part B is a configuration group field. It is used to configure the zone length, quick setting, zone width, combination display, insertion of the trigger and start zone of the buzzer.

Zone length

The detection area can be set in 2 ways:

- ► 1: Individual setting of each zone via "Sensor 1 Detection Zone Length". "Sensor 1 Detection Zone Length" can be set by clicking "Two Sensor" under "Sensor number".
- ► 2: Quick setting of each zone via "Quick Setting".

Sensor 1 Zone Length

Here you can set up each of the five zones individually. Zone 1 has a range of 1m to 20m and the others have a range of 0m to 20.0m, which can be selected via the pull-down menus. The combined total length will not exceed 20 metres. The settings are the same as for sensor 2 zone length.

Note: The distance for triggering the alarm trigger and the start zone of the buzzer are not reset if the length of the sensor 1 detection zone length is changed. Please set the trigger output length and the buzzer start zone manually as required.

Quick Setting

There are 6 types of "Quick Zones", which are preset zones that can be selected by clicking the corresponding checkbox. With this option, the total length, the distance to trigger the trigger output and the start zone of the buzzer are defined and five identical zones are created.

Trigger output length

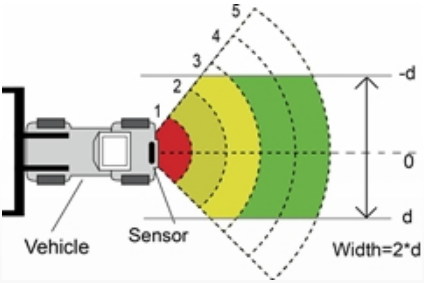
Definition of the distance from which a visual warning is to be issued for an object.

Buzzer Starting Zone

Definition of when an acoustic warning of an object should be emitted. Possibilities: Zone 1-5.

Sensor 1 Zone Width/ Sensor 2 Zone Width

the width of the detection area as shown in the following illustration. This configuration is not supported for sensor type 1. The value you set is half the side of the detection area. The total width is twice the entered value. You can set the width from ±0.1m - ±10m (0.2m - 20m) via the menu.



Sensor 1 Install Angle/ Sensor 2 Install Angle

Indicates the horizontal angle at which you should mount the sensor. You can only read the angle and cannot configure it.

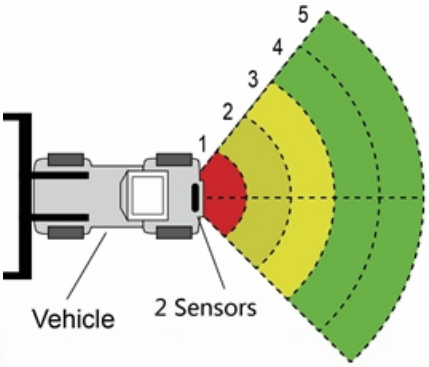
Distance display

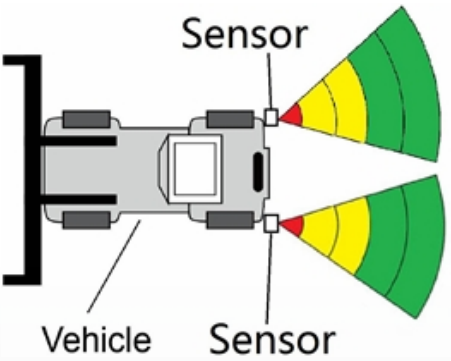
If you Yes, the detection distance of the object is on the monitor; if you select NO, no distance information is displayed.

The distance tolerance is ±0.3 m.

Combination Display Setting

This option is only active when using two sensors. Two sensors are recognised in combination if you select Yes. In this mode, two sensors should be mounted at a horizontal angle of 25 degrees. Two sensors detect independently and the monitor displays each of the alarm zones if you select NO.

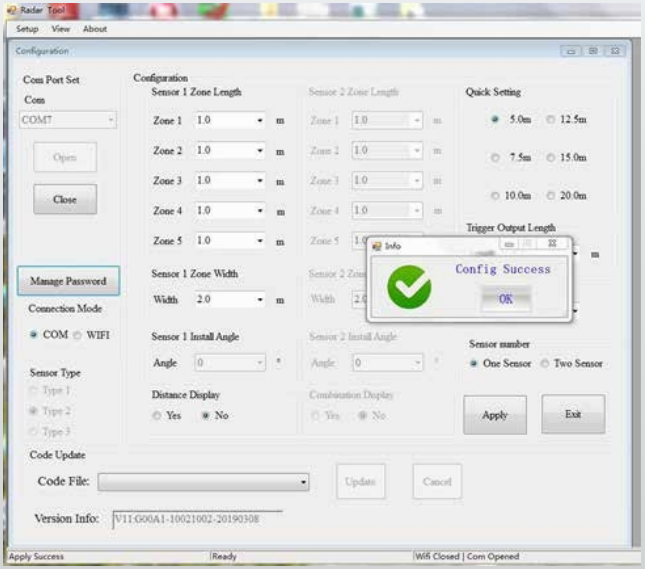




Downloading configuration data to the control box

Make sure that the configuration tool is connected. Once all required configurations have been selected, all settings can be programmed into the control box. The "View" interface also the status you have set.

Click on the "Apply" button to load the configuration data into the control box. As soon as the configuration has been downloaded, a pop-up window appears with the prompt "Config Success" and "Apply Success" are displayed in Part D.



⚠ WARNING

If part D displays "Query Failed", please check the connection between the PC and the control box or the Wi-Fi connection.

System update

Select the code file (.jic) to the control unit system via Wi-Fi or the UART port. It takes about two minutes for the update. Do not interrupt the power supply of the control unit during the update, otherwise the update fail and lead to abnormal operation.

SETTING VIA SMARTPHONE

Only supported in conjunction with the optional Wi-Fi functionality in the control box.

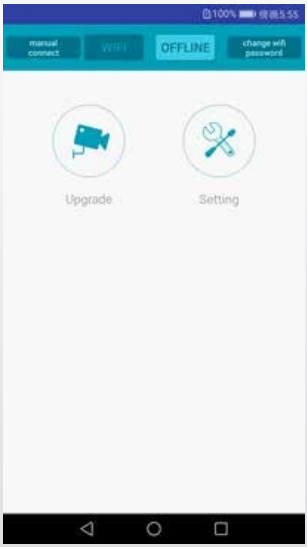
System requirements

The APP of the configuration tool can currently only be operated on the Android operating system.

Using the configuration tool software

Overview of the user interface

The user interface of the configuration tool is shown below.



The top bar is used to set the Wi-Fi connection.

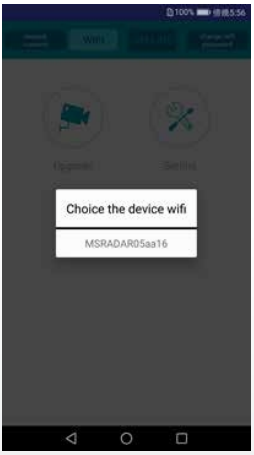
The "Upgrade" button stands for the system update function.

The "Setting" symbol used to configure the detection area and the alarm trigger.

Connecting to the control box

Click on the Wi-Fi button, wait for the device to scan and you will find the Wi-Fi account of the control box.

The Wi-Fi name starts with MSRADAR. The colour of the Wi-Fi button changes from deep to light when the connection successful. The connection is established automatically if the default password is not changed. GPS must be opened at the same time if the Android system is version 6.0 or older.



With some Android systems, such as version 4.0, the connection may not be established automatically and must established manually. If the Wi-Fi fails, you can click the "manual connect" option and click "jump" to connect. Search for the Wi-Fi account as "MSRADAR##" and the default password: 88888888

Click on "Change Wi-Fi password" and create a new password

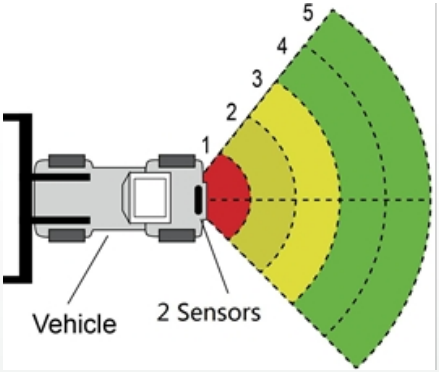
Reading the configuration from the control box and the settings recognition area

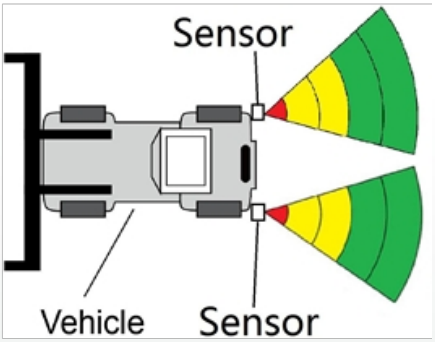
Reading the configuration

After connecting the control unit, click on the "Settings" button and the current configuration will be displayed at the bottom. The system version is displayed in the top bar.

Combination Display

This option is only active when using two sensors. Two sensors are recognised in combination if you this option. In this mode, two sensors should be mounted at a horizontal angle of 25 degrees. Two sensors detect independently of each other and the monitor displays each of the alarm zones if you do not select the option





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Show Distance

The distance value that the sensor has detected is displayed on the monitor when you the "Show distance" option. If you are using two sensors, each value
is also displayed if you deactivate the "Combination Display" option. When selecting "Combination Display", only the nearest value is displayed.

Second Sensor Valid

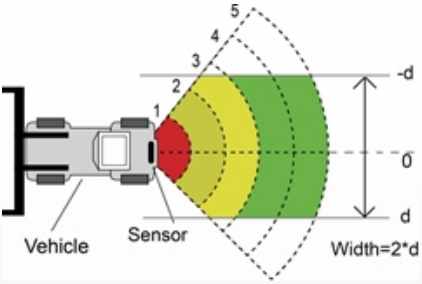
The option is selected if two sensors are used and two detection areas can be set. Ignore this option if you are using one sensor.

Recognition area settings

The detection zones and their width settings are displayed below the vehicle model. The nearest zone is red, the second and third zones are yellow and two furthest zones are green. If you the "Second sensor valid" option, only one line of numbers is displayed. Three detection zones can be set if the two furthest zones are set to 0. This is used to set each of the five zones individually. Zone 1 has a range of 0.1m to 20.0m and the others have a range of 0m to 20.0m which can be selected via data entry. The combined total length will not exceed 20 metres. The settings are the same as for sensor 2 zone length.

Zone width

Set the width of the detection area as shown in the following illustration. This configuration is not supported for type 1 sensors. The value you set is half the side of the detection area. The total width is twice the value. You can set the range from ±0.1m to ±10m (0.2m to 20m) via the data input.

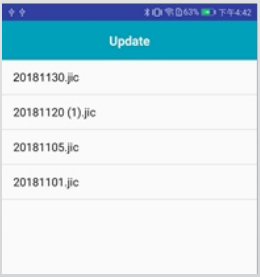


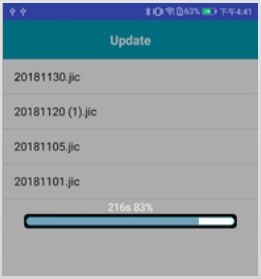
Downloading configuration data to the control box

Make sure that the APP is in the connected state. Once all the required configurations have been selected, all the settings can be programmed into the control box. Click on the "SAVE" button to load the configuration data into the control box. As soon as the configuration has been downloaded, "Set success" is displayed.

System update

Place the installation file with the extension (.jic) in the path: radar/update/ xxx.jic. If you do not have this directory, you must new folders "Radar" and "update" in the home directory. Back to the APP start page, click on the "Upgrade" button. Select the code file(.jic) to upgrade the control box system. There is a progress bar and a percentage indicator for the upgrade. Do not interrupt the power supply during the upgrade, otherwise the upgrade will fail and lead to abnormal operation. A success message will be displayed when the update is complete.





INSPECTION AND MAINTENANCE

A walk-through test must be carried out every day to that the system is working properly and to familiarise the operator with the detection area. More frequent inspections should be carried out if:

- The vehicle is used in a particularly dirty or harsh environment.
- The operator has reason to believe that the system has been damaged.

This test should be carried out with two people, one of whom remains in the cab (the operator) and one of whom walks through the sensor detection field (the assistant). The vehicle is in a particularly dirty or harsh environment.

1. Clean the sensor surface of dirt, mud, snow, ice or deposits.
2. Carry out a visual inspection of the connected cables and ensure that they are properly fastened and not damaged. Check the radar sensor and the control unit and ensure that they are securely attached to the vehicle.
3. the parking brakes, start the vehicle, apply and hold the vehicle brake and engage reverse gear.
4. The area behind the vehicle should be free of obstacles over a distance greater than the sensor range. If the monitor displays an overlay or the buzzer sounds, there are objects in the rear of the vehicle that are interfering with the test. Drive the vehicle into a clear area and continue.
5. The assistant should move directly behind the rear corner of the vehicle within sight of the operator's mirrors. He should then walk parallel to the rear towards the centre line of the vehicle while the driver notes when the monitor displays an overlay and the buzzer sounds, indicating that the sensor has detected the object.
6. The assistant should continue the area at the rear of the vehicle while the operator notes the area where the detection is taking place.
7. Then walk straight backwards from the centre of the rear of the vehicle, away from the vehicle. When the buzzer stops sounding or the overlay disappears, the detection limit has been reached.
8. The assistant should walk the entire rear of the vehicle while the operator notes the detection limits of the entire detection area.
9. After the check, the operator and the assistant must provide details of the detection area.

PROBLEMS AND SOLUTIONS

The symptoms described below do not necessarily indicate a fault in the system. Please check the following points before submitting a repair request.

Symptoms	Causes	Solutions
No response from the system even though reverse gear is engaged	No power supply in total or at the trigger	Testing the voltage supply and the trigger . Part 6.2.
No reaction of the display despite object in detection area	Loose cable connection to , box, etc.	Check all cable connections.
No warning tone despite object in detection area.	Volume on the monitor is low or switched off	Switch on the speakers or turn up the volume.
Monitor displays "No Sensor Detected"	Faulty connection.	Check all connections.
There is no object in the vicinity, but the system warns of an object.	Sensor detects the floor.	Adjust the sensor according to the specifications in these instructions.
Cannot be configured with USB TO UART cable.	The control box is not supplied with power or the trigger input line has a high level.	Make sure that the box is supplied with power and that the trigger input is at low level (or not connected).
The PC configuration programme cannot search for a Wi-Fi device.	Weak signal or no via the PC	Improve the signal moving closer to the router and check the connection status of your PC.
Wi-Fi device cannot be searched for in the configuration tool of the mobile .	Weak signal or no connection of the smartphone.	m Make sure that the phone has activated the Wi-Fi settings and re-establish the Wi-Fi connection using the configuration tool.
Wi-Fi is constantly decoupled automatically.	Your router or the device are disturbed by other frequency sources (hoover, motor, control devices, power tools ~2.4GHz)	Switch off sources of interference or move away from them using the control box.

EU- DECLARATION OF CONFORMITY

We, CARGUARD Technologies GmbH
Adress: Röhrichtweg 12 / 44263 Dortmund /Germany,
declare on our own responsibility, that the product:

Kind of equipment: Radar distance warning system

Model: ZURÜF, ZURÜF2, ZURÜF24, ZURÜF224, ZURÜMV, ZURÜMV24, ZURÜDMV, ZURÜM7F, ZURÜMF24, ZURÜD, ZURÜ24VA, ZURÜDU, ZURÜF2W, ZURÜF2W24, ZURÜS, ZURÜSE, ZURÜF3S, ZURÜF3S24, ZURÜ24VA, ZURÜF60, ZURÜBF, ZURÜMOS7, ZURUF43P141, ZURUMV23P141, ZURUDB112P221, ZURUDB212P221, ZURUDB212P223, ZURUF13P143, ZURUM23P141, ZURUM23P153, ZURUS13P331, ZURUS13P333, ZURUF13P341, ZURUF13P343, RUS13333PT, RUS16333PT, RUU24, RUU24S, RUU22S

is in conformity with following directives and standards or regulations:

EMC Directive of 2004/108/EC

Automotive EMC Directive 72/245/EEC with amendments up to 2009/19/EC

The product is marked CE

Dortmund, 21.01.2022
(Place and date of issue)

Jens Bergemann, Managing Director, CARGUARD Technologies GmbH

(Manufacturer/ Authorised representative name and signature)

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