USER MANUAL
WIRELESS PARKING SENSOR KITS

MPRSWB-D   **Wireless Rear Parking Sensor Kit with Display**

MPRSWB-S   **Wireless Rear Parking Sensor Kit with Speaker**

MPFSWB-D   **Wireless Front Parking Sensor Kit with Display**

MPFSWB-S   **Wireless Front Parking Sensor Kit with Speaker**

Notes

1. This system is designed to be an aid and should not replace the need to drive carefully.

2. Under no circumstances will the manufacturer, supplier and/or dealer accept any responsibility or be held liable for any direct or indirect, incidental or consequential damage, or for injuries resulting from installing or using this system.

3. Neither Mongoose nor the supplier are responsible for any additional promises or claims made by the retailer of this product.

4. To the extent permitted by law, Mongoose excludes all liability, including negligence, for any loss incurred in re-liance on the contents in this publication.

Cautions

1. Please read this manual carefully before using the product.

2. We recommend that you practice using the system with different obstacles to understand performance.

3. Though the minimum detecting distance is 0.30m, it is still recommended to keep enough space to stop your car. Considering the cars' inertia, it would be better to stop your car when the distance on the display is shorter than 0.60m.

4. False alarms can be caused by interference with sound sources like horns and gas brakes.

5. Car speed should be less than 3~5 Km/h when parking. No matter how effective a parking alert system is, if you parking too quickly, accidents will occur.

Products

Models

1.MPFSWB-D: Front 4 sensor wireless parking sensor with display
2.MPRSWB-D: Rear 4 sensor and Front 4 sensor wireless parking sensor with display

3.MPRFWB-S: Front 4 sensor and Front 4 sensor wireless parking sensor with Siren/buzzer

2.MPRSWB-S: Rear 4 sensor and Front 4 sensor wireless parking sensor with Siren/buzzer

Technical Parameters

1. Operating voltage: DC10V~30V
2. Maximum power consumption: 3W/12V
3. Working ambient temperature: -40°C~+80°C
4. Maximum detection range (can be personalized*): 0.60m~2.60m
5. Minimum detection range (can be personalized*): 0.30m~0.60m
6. Ultrasonic frequency: 58 KHz
7. Wireless frequency: 2.4GHz

Usage

● Display & Functions

⑥Volume set   ⑤Front on/off button   ⑨Pair button

⑦GPS speed controlling

③Orientation indication

④Zone caution

②Sound warning

`0.58`

①Distance display   ⑧Voltage display

📶Wireless communication icon   📡GPS icon   **V** Voltage icon

①Distance display: Display distance between front or rear sensor and the closest obstacle, use the meter and displayed resolution is 0.01 meter.

②Sound warning: Remind distance with a cadence using built−in buzzer.

③Orientation indication*: After self−test, lit icon indicates that the corre−sponding position sensor is operating normally, if a sensor fails, the corre−sponding icon is extinguished; Indicates the location of the closest obstacle with flashing icon.

④Zone caution: Indicate the safe zone(blue), alert zone (yellow) and danger−ous zone (red) when obstacle is detected.

⑤Front sensor on/off set: Used to turn on/off display: when the car move forward, press the button for once, it will turn on/off the front sensors. (No memory function, repower on system turn ON as default)

⑥Volume set: The volume button is on the top of the display, it is adjustable from level 0 to level 8.

⑦GPS speed controlling: Designed to be controlled by car GPS speed, the system would be activated if the speed is less than 15 km/h. It would be turned off if the speed is greater than 15km/h with showing speed instead.At this time you can turn off the speed show by push the Front On/Off button on the top of display.

⑧Voltage display: Display voltage values within 3 seconds after car started.

Usage

● Speaker and Function
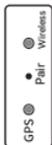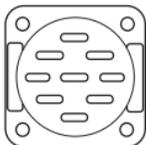
Audible alarm: According to the detected obstacle distance, different sound rhythms are used to indicate the area where the obstacle is located. When the detection distance remains unchanged,the alarm volume will be reduced automatically after 3 seconds, and the alarm sound will stop after about 2 seconds at low volume.

Volume adjustment: The alarm volume can be adjusted in 3 levels. Under the power-off state, use the mobile phone card pin or toothpick and press the pair button, turn on the power, enter the volume adjustment state, short press the pair button to adjust the volume to the desired volume, and then repower on.

Detection distance setting: The detection range has 5 levels, and the factory default setting is the 3rd level.The setting of the detection range is realized through the Pair button on the speaker. The setting method is: when the speaker is powered on, press and hold the pair button for 5~6 seconds. 1 beep sound means 1st level,

2 beep sound means the 2nd level, and 3 beep sound means the 3rd level and so on,every time press for 5~6 seconds, it increases by one level.After power off, restart,it will alarm according to the newly set level.

Pairing: When both the speaker and the controller are powered on, use the mobile phone card pin or toothpick and press the pair button once, and the speaker will emit two beeps, indicating that the pairing is successful.

A.GPS indicator light: For model without speed control function, it will not light up.For model with speed control function, the blue light is always on when the speed is not obtained; the blue light flashes when the speed is obtained.

B.Wireless indicator light:

when the communication is abnormal, the red light is always on.

when the front sensor communication is normal, the red light flashes.

when the rear sensor communication is normal, the green light flashes.

when the front and rear sensor communication is normal, the red and green lights flash alternately.

- **Reverse**

When REVERSE the car, Front sensor and rear sensor are working, always display the distance between rear sensor and the closest obstacle; meanwhile, the buzzer will continuously beep and the corresponding orientation indicator will blink if the distance is less than 0.30m between front sensor and the closest obstacle.

- **Forward**

When FORWARD the car, Front sensor are always working, if no objects are detected with in 3 seconds, it will display 🛰/🛰 to indicate that it still operating in detect status. It will turn on if any objects are detected.

- **GPS Speed Controlling**

After the GPS speed obtained, the FRONT sensor will be controlled by car GPS speed, the FRONT sensor would be activated if the speed is less than 15Km/h. It would be turn off if the speed is greater than 15Km/h with showing speed instead, at this time you can turn off the speed show by push the big button on the top of display.

- **Sensor Detection Range Setting**.

In order to get the best effect, and meet the personalized requirement of the drivers, the detection range of each sensor can be adjusted, both the Max. and Min. detection range can be set, in this way, false alarms caused by body obstacles such as decorative bars, license plates, tow bars, and pedals can be avoided.

- **The Maximum Detection Distance Setting**

Press the Front On/Off button and turn on the power, Press the Volume button to choose the sensor you want to set and then; Press the Front On/Off button to increase the distance, each time increase 0.1 meter, circle to choose the distance you need. Once the distance is set, power off, and repower on, then the system will work according to the newly setting.
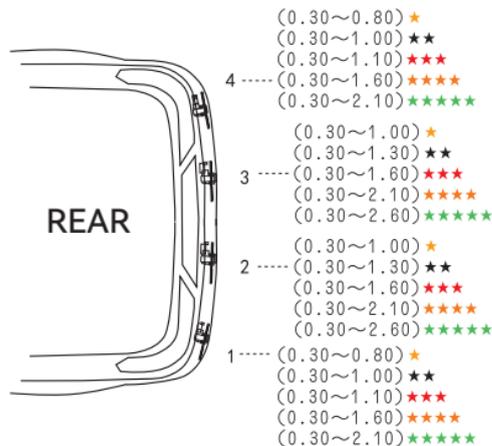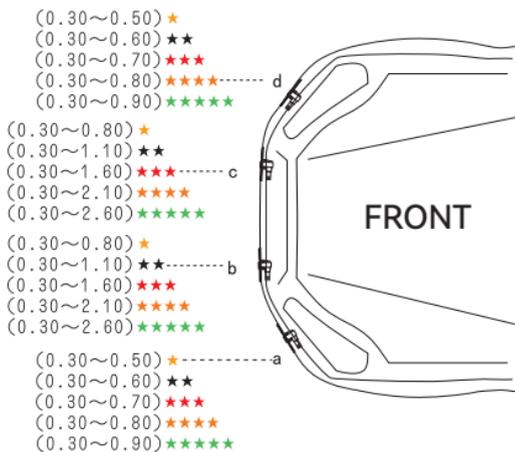
- **The Minimum Detection Distance Setting**

Press the volume button and turn on the power; Press the volume button to choose the sensor you want to set, and then; Press the Front On/Off button to increase the distance, each time increase 0.1 meter, circle to choose the distance you need. Once the distance is set, power off, and repower on, then the system will work according to the newly setting.

- **Reset to Factory Default**

Press pair button and turn on the power, the "beep" sound will be heard and setting finished.

● **Front sensor detection range and warning method** ● **Rear sensor detection range and warning method**

Front sensor levels:

(0.30~0.50)★
(0.30~0.60)★★
(0.30~0.70)★★★
(0.30~0.80)★★★★ ------- d
(0.30~0.90)★★★★★

(0.30~0.80)★
(0.30~1.10)★★
(0.30~1.60)★★★ ------- c
(0.30~2.10)★★★★
(0.30~2.60)★★★★★

(0.30~0.80)★
(0.30~1.10)★★ ------- b
(0.30~1.60)★★★
(0.30~2.10)★★★★
(0.30~2.60)★★★★★

(0.30~0.50)★ ----------- a
(0.30~0.60)★★
(0.30~0.70)★★★
(0.30~0.80)★★★★
(0.30~0.90)★★★★★

FRONT

Rear sensor levels:

(0.30~0.80)★
(0.30~1.00)★★
(0.30~1.10)★★★
4 ----- (0.30~1.60)★★★★
(0.30~2.10)★★★★★

(0.30~1.00)★
(0.30~1.30)★★
3 ----- (0.30~1.60)★★★
(0.30~2.10)★★★★
(0.30~2.60)★★★★★

(0.30~1.00)★
2 ----- (0.30~1.30)★★
(0.30~1.60)★★★
(0.30~2.10)★★★★
(0.30~2.60)★★★★★

(0.30~0.80)★
1 ----- (0.30~1.00)★★
(0.30~1.10)★★★
(0.30~1.60)★★★★
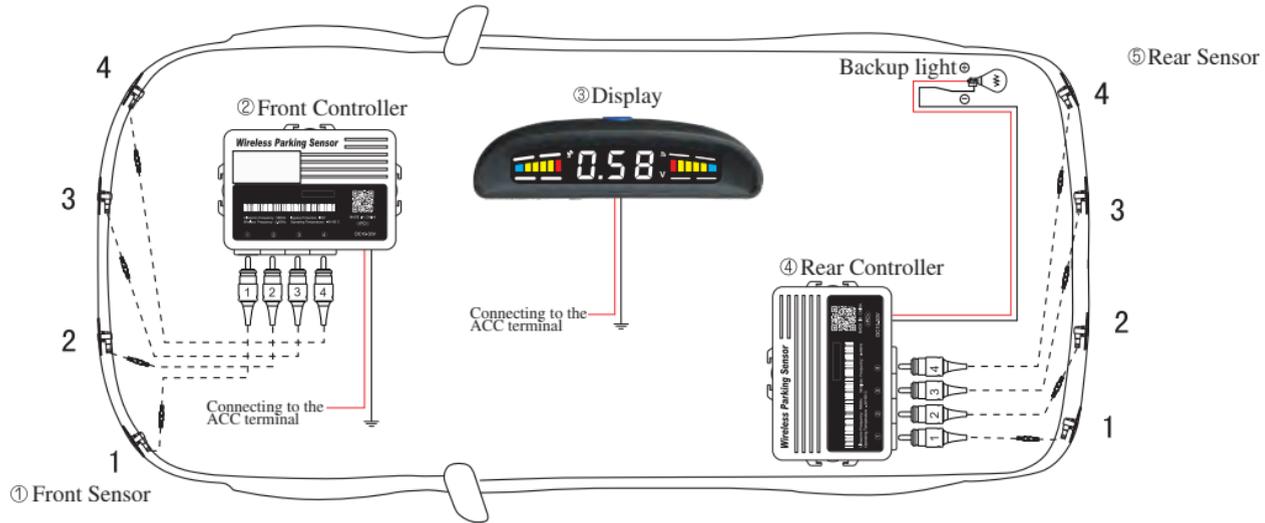(0.30~2.10)★★★★★

REAR

★ level 1   ★★ level 2   ★★★ level 3 (factory default)   ★★★★ level 4   ★★★★★ level 5

Warning method: In the corresponding detection area, the Speaker will be alarmed in the form of heartbeat, the closer the distance, the swift beep it will be. When detection distance is less than 0.3m, continuous beep will be heard. When detection distance remains unchanged, the alarm volume will be reduced automatically after 3 seconds, and the alarm sound will stop after about 2 seconds at low alarm volume.
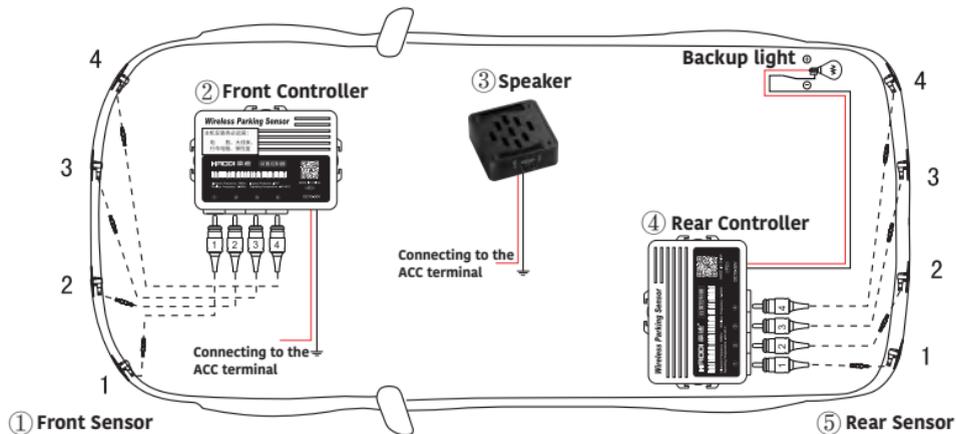
Installation

● Installation diagram for Front or Rear kit with Display

4
② Front Controller
③ Display
Backup light
⑤ Rear Sensor
4

Wireless Parking Sensor

3

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④ Rear Controller

3

2

Connecting to the ACC terminal

2

Connecting to the ACC terminal

1

Wireless Parking Sensor

1

① Front Sensor

❶ **MPFSWB-D**: Front 4 sensors wireless parking sensor with GPS speed controlling includes①②③
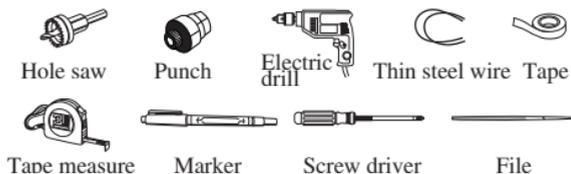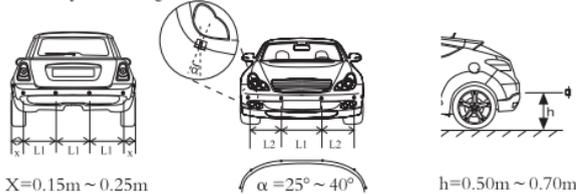
❷ **MPRSWB-D** :Rear 4 sensors wireless parking sensor includes ③④⑤

Installation

Installation diagram for Front or Rear kit with Speaker/Buzzer

Backup light

4

③ **Speaker**

② **Front Controller**

4

3

3

Wireless Parking Sensor

④ **Rear Controller**

2

2

Connecting to the ACC terminal

Wireless Parking Sensor

1

Connecting to the ACC terminal

1

① **Front Sensor**

⑤ **Rear Sensor**

❶ MPFSWB-S: Front 4 sensors wireless parking sensor with GPS speed controlling includes ①②③

❷ MPRSWB-S: Rear 4 sensors wireless parking sensor includes ③④⑤

● Installation Tools needed

Hole saw   Punch   Electric drill   Thin steel wire   Tape

Tape measure   Marker   Screw driver   File

- Horizontal position and ground clearance -

X=0.15m ~ 0.25m   α =25° ~ 40°   h=0.50m ~ 0.70m

⚠ The position of the sensors must be within the required scope of in–stallation, and the hole surface should be perpendicular to the ground.

⚠ The two sensors in the middle of the front face as far as possible to the front, and the other sensors are symmetrical and may be unequal.

⚠ Make sure that the rear of the installed sensor is not in contact with any objects.

⚠ The wires cannot be cut and reconnected. The wiring should avoid pulling and squeezing, and keep it away from exhaust pipes, water tanks, electronic fans, etc.

⚠ Make sure the plug between the sensor and the extension cable, the extension cable plug to the controller socket must be firmly rotated and inserted in place otherwise it is easy to leave hidden dangers and mal–functions.

● Sensor Installation

⚠ The direction of the sensor installation, the arrow should be upward. If the installation surface is too high or inclined upward, the arrow can also be downward to correct the angle.
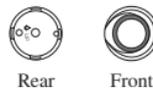
⚠ If the mounting surface is made of iron, fiber glass, or with the anti–collision bar installed at the rear, please first install the silicone sleeves and then install the sensor.

- Plug–in sensor installation direction -

Arrow upward   **Arrow horizontal**   **Arrow tilt**

Rear   Front   Rear   Front   Rear   Front

● Notes

Mongoose Parking Assistance System uses wide angle, high sensitivity sensors and advanced data processing technology. The blind zone is relatively small. But in some cases, the readout on the display may not be entirely accurate due to a combination of factors such as the height of the sensors, the shape, location, angle, and reflectivity of the obstacle, or other characteristics. Please check the condition behind your car before reversing. Some examples are given below（The picture shows the reversing sensor, also applies to the front sensor).

Fig.a

Fig.b

Fig.c

Fig.d
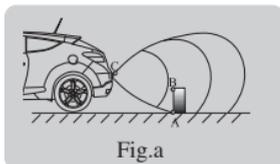
a. As shown in Fig. a, point B is lower than sensors, and point A has a strong reflection, the distance of CA will be shown first. When the obstacle is within the blind zone, neither A nor B will be detected. This usually occurs when the obstacle is lower than the level of sensors.
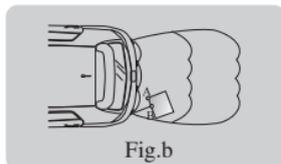
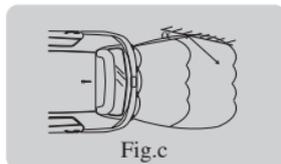b. As shown in Fig. b, though point A is closer to the sensor than point B, the distance from sensor to point B is shown.

c. As shown in Fig. c, in case of small angle (α) of incidence to the obstacle, such as glass wall or other smooth plane, the obstacle is not detected.
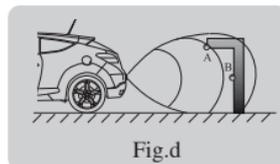
d. As shown in Fig. d, point B will be detected sooner or later, but point A may not be detected at all.
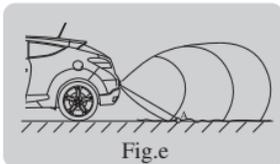

Fig.e

Fig.f

e. As shown in Fig. e, in certain conditions, for example, if the car is slanted backward or/and on a rough road, the ground might be detected and the distance from the sensor to the ground will be displayed.
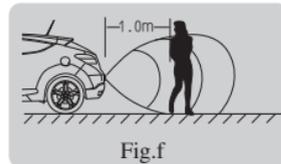
f. As shown in Fig. f, not all obstacles can be detected from 2.6m. For instance, a person is detected from 1.0~1.5m because of the weak reflection of clothes.

● Maintenance

1. Clean any sand, ice, snow or other dirt on the sensors' surface immediately and ensure the sensors' surface is kept clear.

2. You may re−paint the surface of the sensors if you use a very light coat of paint. Be careful, because thick paint will significantly affect detection.

3. Do not press in the sensor center core.

● Display Installation

The display can be installed, attached to the middle or left side of the dashboard

⚠ The Display power cord passes through the concealed part of the dash seal. The RED cable connects to the ACC-IGN power supply. BLACK wire connects to ground source.

● Front Main Controller Installation

⚠ The front wireless controller is waterproof and can be ins–talled in a suitable fixed position in the engine compartment, away from car battery, high–current wiring harnesses, xenon lamp ballasts and other strong interference devices.

⚠ The front wireless Controller can get power from the ACC, or it can get power from car battery directly, because the static current of the front Controller is less than 0.3mA.

● Rear Main Controller Installation

⚠ The rear wireless controller is installed inside the rear trunk and get power from the reversing light.
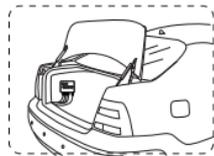
● Code Pairing

In order to ensure the uniqueness of the wireless signal trans–mission and reception between the controller and the receiver(inside the display), the transmission and reception password must be con–sistent.

If there is a wireless communication failure（ 🔊 not appearing in the display） during installation and usage, or when replacing the controller or display , then need to perform code pairing operations.

The method is: ① Put the car key in the ACC gear when pairing with the front controller; ② Put the reverse gear when pairing with the rear controller, and use the mobile phone card pin or toothpick to the code button hole and press the code matching button, the display shows ⚙⚙⚙ , the buzzer emits two beeps, and if the display shows 🔊 that means the code matching is successful.

● Functional verification

Functional verification with simulated obstacles

1. Startup: After the car is started, the front sensor will work, and the corresponding orientation icon will light up; when the reverse gear is engaged, the rear sensors and the front sensors will work, and the corresponding orientation icon will light up.

2. Sensor orientation check: Bring the obstacles close to each sensor in order, the orientation icon flashes, and its position should cor−respond to the sensor position where the obstacle is detected.

3. Distance display audible alarm: select large−area objects such as walls as obstacles, make the sensor face the obstacle and change the distance from far to near. Check that the distance display and sound warning should be consistent with the description as show in the manual.

4. The front sensor warning when reversing: when the reverse gear is engaged and the distance between the obstacle and the front sensor is less than 0.30 meters, the buzzer will beep con−tinuously, the corresponding orientation icon will flash; and the distance showed on the display is the distance detected by the rear sensor.

5. Front parking sensor interference test: Choose a place without any obstacles, turn on all lights in the car, and hit the throttle in neutral (7−10 times), carefully check whether the display is displayed, if there is a display, it means the controller is interfered, please move the position of the controller to other place and retest it, and secure the controller until it is not interfered.

Problem	Cause	Solution
1. There is no sound when starting the car (front sensor) or putting on reverse gear (rear sensor), and all indicator lights are off	The speaker power supply is not powered on	Check whether the power cord is connected correctly and tightly
2. Continuously beep	a. Detect objects within 0.30m from the sensor b. The position of the sensor is too close to the ground and the direction is too inclined to the ground C. The sensor plug and the extension cord socket, or the extension cord plug and the controller socket are not inserted in place d. Ice, snow, and mud stick to the surface of the sensor	a. In order to avoid spare tires, decorative bars, tow hooks, etc., you can return to the factory to customize the controller b. Reduce the detection sensitivity by reducing the maximum detection distance of the corresponding sensor c. Rotate forcefully and insert it in place d. Clean the surface of the sensor
3. Always keep one rhythm alarm	a. The object with a strong reflective surface on the ground is detected b. The sensor sweeps to the smooth ground c. There is electrical pulse interference around the controller	a. If the phenomenon disappears after moving the car, it is normal and there is no need to deal with it b. Lower the detection range level to reduce the sensitivity c. Change the installation position of the controller, and stay away from the battery and the vehicle cables.
4. Speaker alarm abnormally	a. There is ultrasonic interference near the sensor b. Electrical pulse interference exist around the controller	a. Normal phenomenon: Pneumatic tools, grinding machines, knocking sounds, etc. will generate interference signals b. Change the installation position of the controller, and stay away from the battery and the vehicle cables.
5. The Speaker volume is too loud or too low	The volume setting is not appropriate	reset volume

Parking sensors kits are a driving aid and usual driving precautions should be taken whilst reversing or parking. Sensors may not detect all possible objects/obstructions. Detection distances are approximate.

Details on this product or copy of product manual, please go to product pages at

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V26.3