PS114.1

WIRELESS ULTRASONIC DETECTION SYSTEM FOR COMMERCIAL VEHICLES

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Version V1.1

GENERAL INFORMATION

The Ultrasonic Detection System is strictly meant as a driver aid, and the driver is still responsible for SAFE and CORRECT driving.

What is Wireless Ultrasonic Detection System?

The Wireless Ultrasonic Detection System is a modern supervisory system that uses ultrasonic technology to eliminate blind spots for commercial vehicle drivers. The functional principle is based upon the ultrasonic echo-transit time method. Each of the sensors will emit a steady intermitting ultrasonic signal. The sensors operate as both transmitters and receivers, which will receive the beamed and reflected ultrasonic signals from possible obstacles.

How does it work?

The Wireless Ultrasonic Detection System can be fitted to the BACK of the vehicle. The system is activated by engaging reverse gear. When the system is activated, the sensors will constantly scan the surroundings of the vehicle and if there is any obstacle detected, the in-cabin display will send progressive visual and audible warnings to the driver. The driver shall then pay extra attention to the hazard area and maneuver the vehicle accordingly.

Why is it better?

The wireless feature of the system means that there is no cabling needed from the control unit to the in-cabin display, therefore,cabin display, therefore,

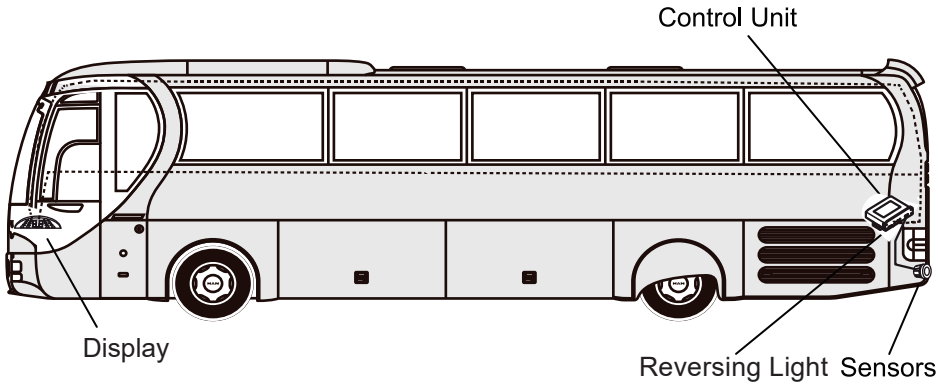
What is it compatible with?

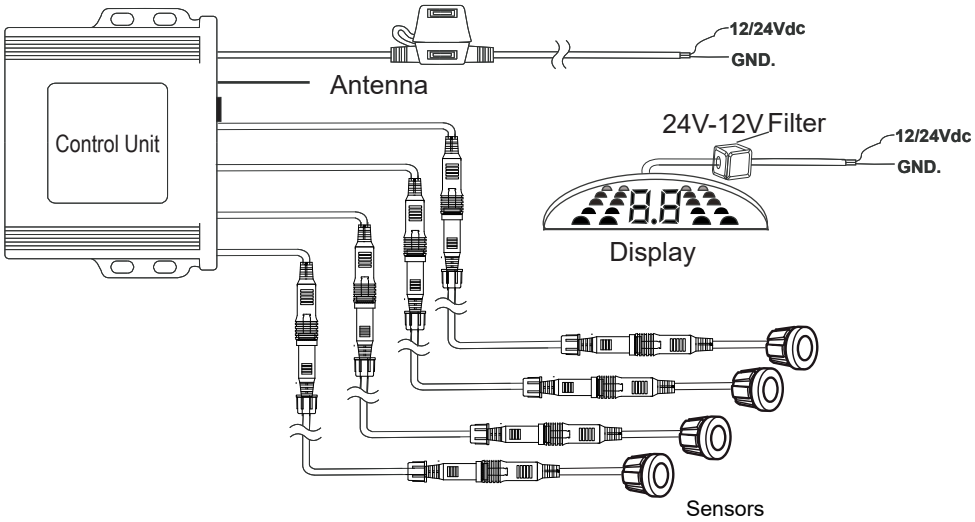
The system comes with an IP69K ECU box and IP68 sensors and connectors, so it is suitable for all types of commercial vehicles such as HGVs, LGVs, vans and buses. The 12/24Vdc dual voltage feature means that it can be connected to vehicles with either 12V or 24V power supply.

The wireless system is ideal for a fleet of trailers as there is no cabling between tractor and trailer. Any tractor fitted with the display will be able to receive the wireless signal from the control unit at the back of the trailer.

N.B. Under certain situations, the wireless system might be affected by Co-Channel Interference. (e.g. Two vehicles fitted with the same wireless system reversing simultaneously at close range.)

WIRING DIAGRAM





WHAT'S IN THE BOX

- 1 x System ECU
- 1 x Display with 1.5m cable
- 4 x Sensor
- 4 x 2.5m Sensor Cable
- 1 x Handbook
- 1 x Accessory Kit
- 1 x Holesaw
- 4 x Underhung Brackets

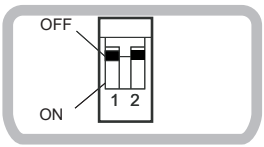
TECHNICAL SPECIFICATION

DESCRIPTION	MIN	TYPE	MAX	UNIT
Power voltage	10	24	35	V DC
Operating current			150	mA
Operating temperature	-20		80	°C
Operating frequency	39.3	40	40.7	KHz
Horizontal detection angle		120		°
Vertical detection angle		60		°
Distance detection accuracy		10		cm
Detection range	0.05	1.0	2.5	m
Buzzer sound volume	75		105	dB

DETECTION ZONES

DISPLAY	SOUND
ZONE A: 1.5 - 2.5m	ZONE A: 1.5 - 2.5m
Number Only	None
ZONE B: 1 - 1.5m	ZONE B: 1.2 - 1.5m
Green	2 beeps per second
ZONE C: 0.5 - 1m	ZONE C: 0.9 - 1.2m
Amber	3 beeps per second
ZONE D: 0 - 0.5m	ZONE D: 0.6 - 0.9m
Red	4 beeps per second
	ZONE E: 0.3 - 0.6m
	5 beeps per second
	ZONE F: 0 - 0.3m
	Constant tone

The two outer sensors start detecting at Zone B.



Switch 1: OFF- Standard
ON- Display distance less 20cm than actual.

Switch 2: No function

FEATURES

1. Wireless range up to 30m.

2. Environment Memorising Mode – System will not send false alarm caused by vehicle ancillary equipment within the first 20cm of the detection zone. It used for the vehicle with tow bar/spare wheel.

3. Suitable for metal bumpers.

4. System Self-Checking Function - On start-up the system will beep twice; If there is any faulty sensor, the system will beep once.

5. IP69K ECU box & IP68 sensors and connectors.

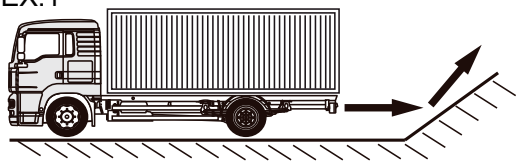
6. E-Mark certified.

TROUBLE-SHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
The system fails to start when the reverse gear is engaged	Wrong connection of power lead	Check the power lead
	Wrong jack connection	Check the connectors
The system always detects the same distance	Sensor detects the ground	Check and adjust the vertical sensor angle
The system fails to detect the obstacles	Wrong sensors connection	Check and reset the system
False alarm	Sensor detects the ground	Check and adjust the vertical sensor angle

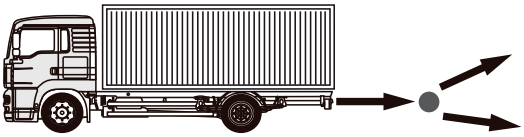
SPECIAL CASES

EX.1



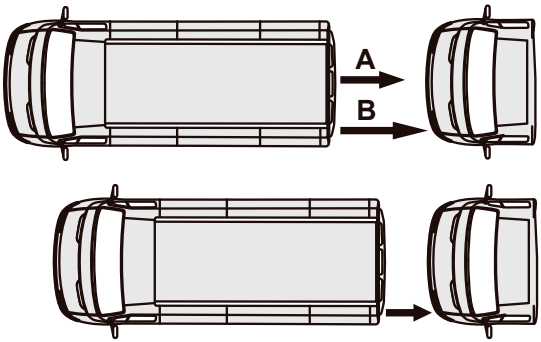
When the car approaches a smooth slope, the slope may not be detected.

EX.2



The sensors may not detect a small or smooth round pole.

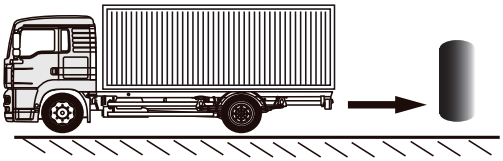
EX.3



Point A will be detected prior to point B, as it comes closer.

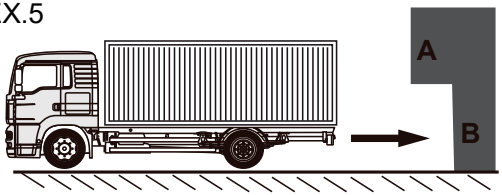
However, point A may fall into the sensors' blind zone, and point B will be misjudged as the closest point.

EX.4



The sensors may not detect any sponge-like material obstacle as the ultrasonic wave was absorbed.

EX.5



Complex situation: point A may not be detected.

IMPORTANT NOTICE

***** Carefully read the instructions and technical specifications.***

The parking sensors are an aid to vehicle reversing operations during parking. Not all objects are detected by the sensor and consequently reversing operations must be performed with the utmost care and attention.

Reversing speed must never exceed 6 km/h.

Stop the vehicle when the buzzer sounds continuously as this indicates an obstacle at not more than 30cm from the vehicle.

Perform connection operations only AFTER having disconnected the vehicle battery.

The unit must only be installed by a professional installer.

Any changes or additions made to the system and not expressly shown in this manual shall invalidate the warranty.

Clean the sensors regularly. For example, snow or dust can reduce efficiency.

In the event of washing with high-pressure water jets, the sensors could temporarily lose part of their sensitivity. This will return once the water has completely evaporated.

Do not position the unit, the sensors or the cables near heat sources such as the vehicle engine or exhaust.

Do connect the sensors firstly, and then plug the power connection. If re-connect the sensors, you MUST re-start the system before testing.