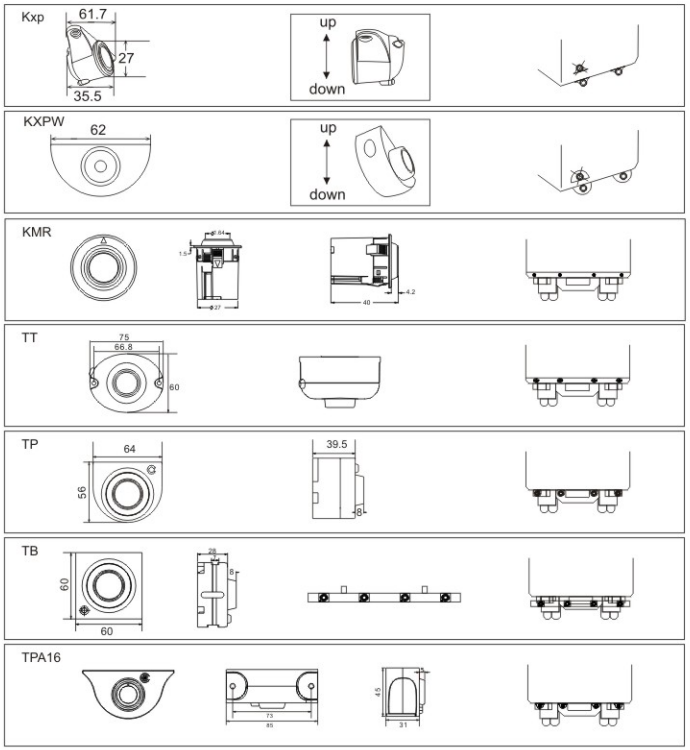
Appendix



Before you start

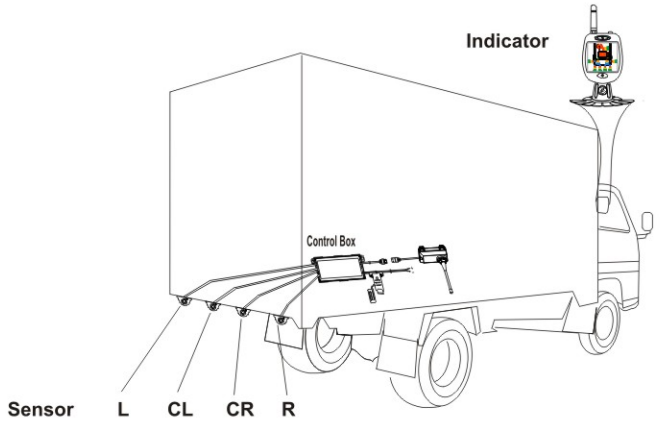
Parking sensor systems are designed with latest ultra-sonic sensing technology to assist the driver in parking or reversing vehicle. By means of audible beeping and visual display, parking sensor can alert the driver of distance of an object up to 4.5 meters or even farther.

Note

Part number of your kit is indicated on packaging box.

The TX series systems contain PCB-inside sensor specially, which can work much more stable than normal sensor.

Schematic diagrams for installation and wiring



Note

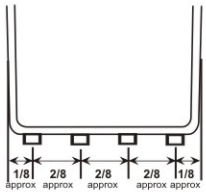
Figures are set up with TXL88R07 as an example.

Installation

1 Install sensors

(1) Find proper positions

The ideal height to mount sensors is 45cm to 55cm where the bumper is vertical to the ground or a little bit facing upwards. Mark positions on the bumper as suggested below:



Some factors like shape of bumper, space behind bumper may affect your choosing positions. In case you need to install lower than 60cm or where the bumper is facing downwards, sensors with angled housing (e.g. KXP) or angle adjuster (e.g. TPA16) are required.

Note

1. Don't install sensors too close to exhaust pipe.
2. With DSM technology (Dynamic Scan Memory) in control module, TX Series Systems can ignore spare tire or tow-hitch at the back of your vehicle.

(2) Amount sensors

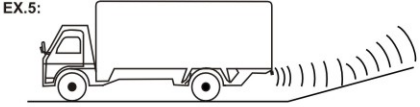
I. Recessed sensors (KMR).

Drill 27mm diameter holes as per the size of sensors.
Push-fit the sensors into the holes. Make sure they fit well.
To avoid damage, always ensure that there is enough clearance for the drill bit to emerge and for the depth of the sensor body when push into fully fitted position.

Note

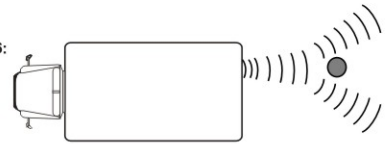
A too tight fitting may result in false alarm. Burnish the edge of the hole in case of too tight fitting.

EX.5:



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

EX.6:



The system may not detect a small and smooth sound pole.

Trouble-shooting guide

PROBLEM	REASON	SOLUTION
System does not work when reverse gear is engaged	Bad connection of main power lead	Check power Lead
	Bad jack connection	Reconnect all jacks
Audio alarm/same distance displayed continuously		Reset the system
	Sensor detects the ground	Adjust angle of sensor installation
No any audio alarm when obstacle is in detection range		Reset the system
	Bad sensor connection	Reconnect sensors
False alarm	Sensor detects the ground	Adjust angle of sensor installation
	System sensitivity is too high	Ask your dealer/ professional installer to adjust sensitivity
Not work naturally when electroformed.		Please put the link-learning button.
Not work after pressing "link" button several times.		Please turn off the power and electroform the back Emitter once more and put the link-learning button again.

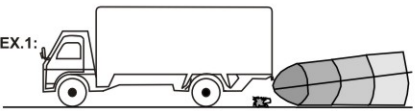
CONTROL BOX	
ITEM	SPECIFICATIONS
Specified Voltage	DC12V
Operation Voltage Range	DC9.6V
Power Consumption	Below 5 W (include piezo-speaker)
Operation Temperature	-30 to +80 Degree Celsius
Shelf Temperature	-40 to +85 Degree Celsius
Operation Frequency	40KHz+/- 2KHz
Detection Zones	(0~0.6~1.2~1.8~4.5/±0.05) M

SENSOR	
ITEM	SPECIFICATIONS
Specified Voltage	DC 8V
Operation Voltage Range	DC7.5V~8.5V
Baud rate	9600 Bit
Operation Temperature	-30°C~80°C
Shelf Temperature	-40°C~85°C
Operation Frequency	40±2KHz
Detection Distance	L/CL/CR/R:zones (0~0.6~1.2~1.8~4.5±0.05)M
Available Distance	0.05~4.5/±0.05M
Detection Angle	45°Horizontal/45°Vertical
Detection Method	Ultrasonic wave

Situations where obstacles may not be detected

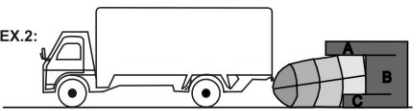
Due to the obstacle's position, angle or size, the reflected signal may not reach the receiving sensor. Complex reflections may also occur in a complex environment causing inaccurate detection. See examples 1, 2, 3, 4, 5 and 6.

EX.1:



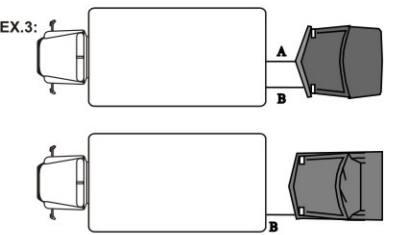
Low lying obstacles,e.g.,kerb.

EX.2:



Complex environment: B and C will be detected but A cannot be detected.

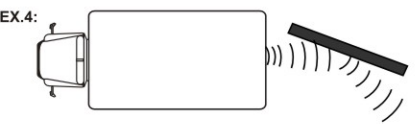
EX.3:



Distance A will be detected first, and then distance B be detected when the car reverse close.

However, as the car reverse closer, A may fall into the sensor's blind zone. In such cases, the system will misjudge B as the closest distance.

EX.4:

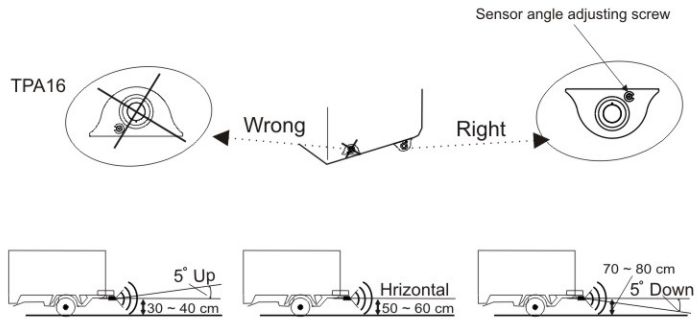


When the car approaches a glass wall (or any other smooth surface) almost paralleled to the body of the car, the wall may not be detected as most of the signal are reflected away.

II. Screw-on sensors

Screw-on sensors are suitable for truck or trailer, which are screwed underneath bodywork.

Each TPA16 sensor comes with a flexible transducer, whose surface has a sensor-angle-adjustment screw. By loosing the screw, adjusting transducer angle and then locking it to select a proper angle if the mounting position would otherwise be too low.



❷ Position control box and display & buzzer

(1) Find a protected and waterproof location under the rear luggage compartment of body and place the control box temporarily in position.

(2) Find a suitable location on the dashboard for display.Place them temporarily in position.

(3) Find a protected and waterproof position under the luggage, and place it near the ECU for convenient installation. Make sure the transmitter is not around by metal material and can transmit efficiently.

❸ Loose-fit and connect cables

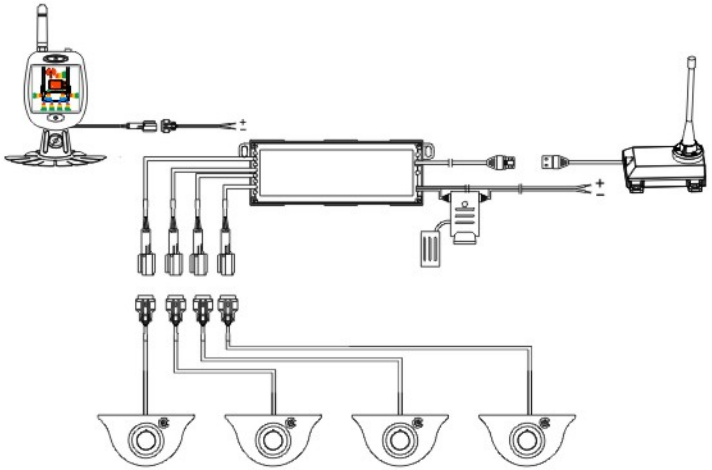
(1) Connect sensors to the control box (loose-fit cables at this stage, in case mounting position need to be changed). Make sure sensors are not cross-connected.

(2) Identify the power wires to reverse lights.

(3) Connect display (loose-fit cables at this stage, in Case mounting position need to be changed) with the DC power wires in the front of vehicle.

Note

(1) Ensure antenna core don't contact with conductive metal, i.e. bodywork metal, to avoid the declining of sensitivity caused by Screen.
(2) Keep antenna straight during installation and using
(3) Emitter and receiver better be installed against and parallel with each other.



Remark

The power cable of ECU and display is less than 3m.
The antenna of this product is specific antenna and has been fixed up permanently. Please don't remove or change by yourself. Any necessary repair or change please contacts our service dept.

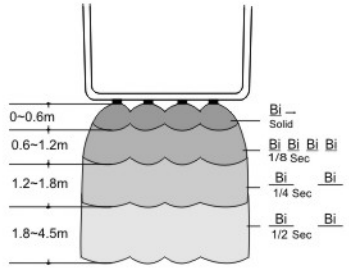
❹ System/fitting check

Electroform two parts Display and Emitter with DC12V. At the first time, only waiting radix point appears, which shows the system is not ready to receive the following RF data. And then please press the 'Link' button in the Display to receive the ID code that is sent from the back Emitter. After receiving, it will work naturally. There is no need to put the 'Link' button again next time. Please set this operation only one time, unless you replace another new trailer.

(1) Turn the ignition switch to "On" position.
(2) Signals Instruction:

• : Waiting
ΓΓ : link-learning
– 0: Transitory intermezzo when receiving
– – : Inter-linking but not received the obstacle information from parking sensor.

(3) When the power off from the back Emitter, the Display will show -0 two seconds and then turn to waiting.



Note

1. All sensors of type O Q e.g., TXL-RF, have same detection range 0-60-120-180-450cm. For Q systems, TXQ-RF Detection range for the central sensors is 0-60-120-180-450cm, that for the corner sensors is 0-60-120-180cm.
2. All measurement are approximate. Due to an object's position, angle, size, or shape, the reflected signal may mislead the receiving sensor(s). For better understanding of the measurement, please test from different angles after installation.
3. If 2 or more sensors detect object(s), the digital display will show the distance of the nearest object to any sensor.

❺ Complete the installation

(1) Fix control box in chosen position using supplied double-side adhesive tape or screws.
(2) Fix display in chosen position using supplied double-side adhesive Tape.
(3) Conceal all cables as much as possible, ensuring they are as well protected and secured as possible.

Technical data

TRANSMITTER	
ITEM	SPECIFICA TION
Specified voltage	DC5V
Operating voltage range	DC4.7V
Standby current	Below 50mA
Operating current	Below 100mA
Operating temperature	-20°C~55°C
Storage temperature	-25°C~60°C
Frequency band	915.11~916.58MHZ+150KHZ
Power e. r. p	5mW
Duty cycle	10%
Jianmen Xin Li	P8-3 omnipotent gumwater

DISPLAY	
ITEM	SPECIFICA TION
Specified voltage	DC12V
Operating voltage range	DC9V
Standby current	Below 80mA
Operating current	Below 150mA
Operating temperature	-20°C~60°C
Storage temperature	-30°C~70°C
Frequency band	915.11~916.58MHZ±150KHZ
Power e. r. p	5mW
Duty cycle	10%
Beijing Chemical plant	502 gumwater

IMPORTANT NOTICE

1. Parking Sensor is strictly meant as a drivers aid when parking or backing up your vehicle. Not all objects will be detected by your sensors, therefore you must exercise caution and common sense when reversing your vehicle.

2. Reverse you vehicle at a speed lower than 6km per hour for safety purpose.

3. Always stop your vehicle when a solid beeping is heard as it indicates an object in a dangerous distance no more than 45cm to your vehicle.

4. Execute regular check on your sensors for any dirt or snow, always keep your sensors clean.

5. In case of water drops on the surface of the sensor (e. g., washing, raining ... etc.), the sensitivity will be possibly decreased about 20% unless water evaporates.

6. Keep all the cables and sensors away from the vicinity of high temperature objects such as engine or exhaust which can make the system fail.

7. The design of Parking Sensor is very complicated, opening by user may damage the its completeness. The manufacturer or its distributors shall NOT take any responsibility for such ignorance by user.

8. In case of defective sensor, please check the cable close to sensor, if it is color-painted, a replacement sensor with cable same-color painted is required.

9. Changes or modifications not expressly approved by the Party responsible for compliance could void the user's authorityto operate the equipment.

Version JP

The most reliable

PARKING SENSOR

Operation Manual

TXL-RF