Parking Sensor System
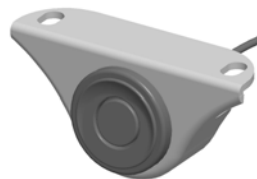
For Commercial Trucks, Utility Vehicles, Buses, Motorhomes and SUV's

INSTALLATION & INSTRUCTION MANUAL

Model: MA-ODSS-4M17WA

- **PRODUCT COMPOSITION**

CONTROL UNIT (ECU)	WARNING UNIT	DETECTION UNIT
• Dimensions: 4.3(L) x 3.6(W) x 1.25(H) in. 110(L) x 92(W) x 32(H) mm • Accessory for Installation: - Hexagonal bolt M6X10: 2pcs	• Dimensions： 3.5(W) x 2.9(L) x 1.6(H) in. 90(W) x 75(L) x 40(H) mm • Accessory for Installation - Adhesive tape - Cable clip: 2pcs	• Type of Sensor: Recess type/Bolt-in type • Sensor Model: M17 • Quantity: - 4 Each + mounting screws

● **TECHNICAL DATA**

NO.	ITEM	DATA	
1	Display Distance	0.22~2.5(m)	0.72~8.20(ft)
2	Blind Area (at 25 ºC)	<0.22m	<8.7 inches
3	Detection Tolerance (at 25 ºC)	±0.02m	±0.8 inches
4	Warning Mode	LED & Sound	LED & Sound
5	Transmitting Distance (Open field)	>120m	>390 ft

NO.	ITEM	DATA
6	Working Voltage	10.5~28.0(VDC)
7	Rated Voltage	12.0 VDC
8	Rated Current	≤250 mA
9	Working Temp.	-30 ~ +80 (ºC)
10	Storage Temp.	-40 ~ +90 (ºC)

● **FUNCTION**

Warning Zone	Distance from Sensor and Obstacle		Visual Signal		Acousticall Signal	
	Unit: m	Unit: f t	LED Bar	Distance	S2,S3	S1,S4
Danger Zone	0<D<0.22	0≤D≤0'09"		"-P-"	Bi (continuous)	Bi (continuous)
	0.22≤D≤0.30	0'09"≤D≤1'00"		"D"		
	0.30≤D≤0.40	1'00"<D≤1'04"		"D"	Bi.Bi.	Bi.Bi.
Caution Zone	0.40≤D≤0.60	1'04"<D≤2'00"		"D"	Bi..Bi..	Bi..Bi..
	0.60≤D≤0.80	2'00"≤D≤2'07'		"D"	Bi...Bi...	Bi...Bi...
	0.80≤D≤1.00	2'07"≤D≤3'03"		"D"	Bi....Bi....	Bi....Bi....
Safety Zone	1.00≤D≤1.70	3'03"<D≤5'07"		"D"	Bi.....Bi.....	Soundless
	1.70≤D≤2.00	5'07"≤D≤6'07"		"D"	Soundless	Soundless
	2.00≤D≤2.50	6'07"<D≤8'02"		"D"	Soundless	Soundless
Note	(1) "D"-Numeric Display in Digits; (2) S1~S4-Sensor's serial Number					

● ABOUT THE DISPLAY

(1) Indication of direction and zone: the 4 columns of LED bar show the direction and location of the obstacle;

(2) Indication of distance: shows the distance from the sensors to the obstacle in meters or in feet
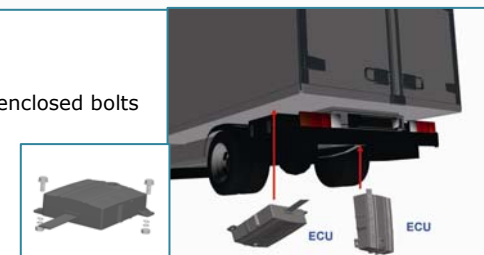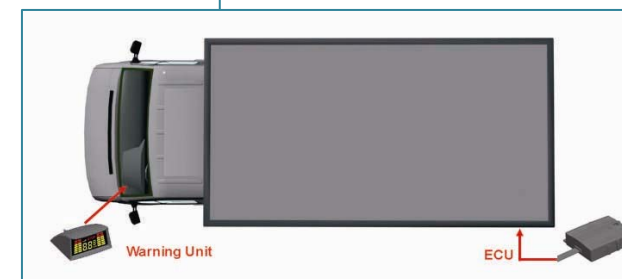.

● INSTALLATION

▲ WHERE TO INSTALL OF ECU
  Install the ECU on the rear part of chassis and the warning unit somewhere above the dashboard.

▲ INSTALLATION
  Install the ECU at an appropriate place on the chassis with the enclosed bolts M6X10.

▲ INSTALLATION OF DETECTION UNIT
(1) Since the width of different vehicle models varies, it is

important to install sensors at right places.

Suppose the width of vehicle is L, then,

(a) For 4-channel systems, the space between sensors is 1/4L;

(b) For 3-channel systems, the space between sensors is 1/3L;

(c) For 2-channel systems, the space between sensors is 1/2L.

(2) Sensors should be mounted 16 in. (40cm) to 32 in. (80cm) from the ground, but 20 in. (50cm) is the best choice, if available.

(3) How to install sensors

Ex: Sensor A

(a) With a drill bit M5, make 2 holes spaced 1.5 in. (38.3mm) apart and no more than 0.6 in. (15mm) from the edge of the bumper or similar vehicle fixture.

(b) As the right fig. shows, attach the sensors on the bumper or similar vehicle fixture (metal bar, etc.) with the enclosed mounting hardware.

(c) When needed, the sensor's vertical angle can be adjusted by placing a shim between the bracket and bumper.

● **CONNECTION BETWEEN UNITS**

(1) Connect the ECU power cable red wire (+ voltage) to the reverse light and the black wire to ground;
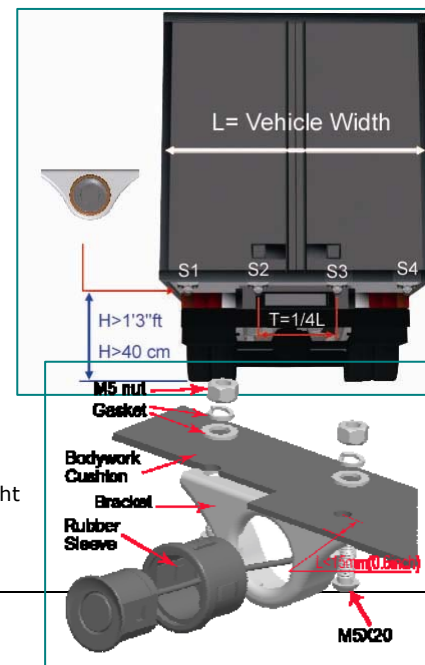
Important: never reverse the power polarities.

(2) Attach each of the sensors to same numbered waterproof
connector running from the ECU (S1 to S1, S2 to S2, etc.);

(3) Refer to the diagram on the right for additional connection information.

● **HOW TO SET FUNCTIONS**

(1) With Volume Switch, adjust the alarm volume at 3 levels: High, low or off;

(2) Click Setting Button twice, the distance will be displayed in meters or in feet;

(3) Identification of ECU: this function is designed for vehicles, which may work with a multitude of trailers.

(4) Stop-line adjustment

This function is designed for adjusting the stop line of the parking sensor system. Parking sensor systems usually report the distance from the bumper to obstacles, so the bumper or exactly the sensor surface is the "0" point of distance. With this function, the so-called "0" point itself can be extended from 0 up to 31 inches (0.8m), enabling you to change the stop line accordingly. In some circumstances, for instance, when the vehicle has a rear carrier for a spare tire or similar item, the "0" point should be extended. By doing so the
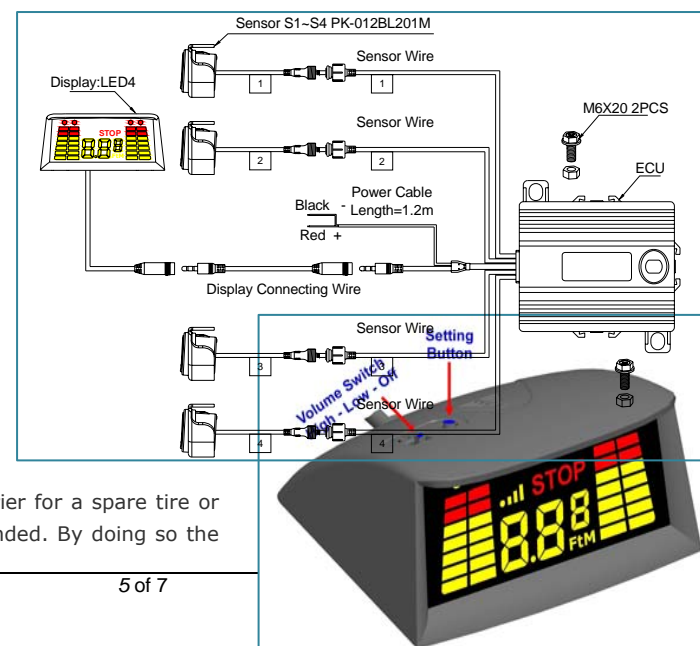
parking sensor system doesn't report the carrier, but reports the accurate distance from the obstacle to the carrier, instead of to the bumper (see the vehicle example).

How to set

(a) Press and hold Setting Button, before and when turning the vehicle key to ACC position.

(b) In 3 seconds, the warning unit will show some digits which are the previous "0" point of distance.

(c) Each time you press the button, the displayed "0" point of distance increases by 0.01(m), until 0.8m (31 inches), and then starts at 0 again. However if you press and hold the button for about 2 seconds, the value will increase automatically, hold the button until the value reaches the desired corrected distance and fine tune as needed.

(d) After the button is released, wait for 5 seconds, the re-set value will be effective automatically.

d: "0" point of distance
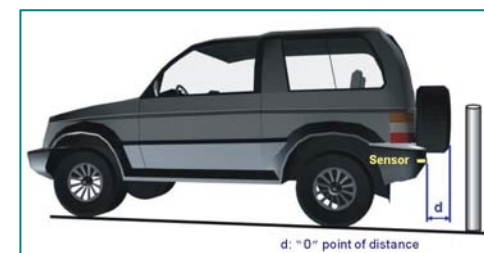
- **HOW TO USE**

▲ STARTUP

When the reverse gear is engaged, the system is automatically powered on, and beeps once, before starting the diagnostic mode.

▲ DIAGNOSTIC MODE

(1) Once powered on, the system starts diagnostic mode.

(2) If some sensor is found abnormal, the system will beep once, "EX" will be displayed for less than 3 seconds, "X" is the serial number (1~4) of the abnormal sensors

Ex 1: If "E4" is displayed, it tells you the sensor No. 4 doesn't work.

Ex 2: If neither sensor No. 2 nor No. 3 works, "E2" and "E3" will appear in the display successively.

If none of the sensors work, "EE" will be displayed, the speaker will keep beeping for 1.5s and the system will not operate.

(3) After 3 seconds of diagnostics and possible failure warning, the system begins working, although with abnormal sensors, if any.

Note: Warning unit will never alert you of any obstacles behind the abnormal sensor(s) and the relative indication of direction will disappear.

● **PRECAUTION**

 The sensor surface must be kept clean; water, ice or mud left on it may affect its performance. The detection results may be affected when the system operates in extreme weather conditions (e.g. strong wind, heavy rain, and snow, very low or high temperature) or on complicated roads (such as rugged roads or roads with slope). Ultrasonic and electromagnetic fields from other sources near the system, if any, may affect the detection results.

● **LIABILITY DISCLAIMER - USE OF PRODUCT**

The system is designed and intended as a warning aid for vehicle backing and parking, and it should only be used as such. No warranty as to operational efficiency is granted. In no event shall Mobile Awareness, LLC be liable for consequential, incidental or special damages or for installation, adjustment, or other expenses which may arise from the use of this product. Mobile Awareness, LLC shall in no event be liable for any direct or indirect damages, including personal injury or death, resulting from errors that occur in the use of this product, irresponsible acts, unsafe driving or negligence. By purchasing, installing and using this merchandise, the customer agrees to take full responsibility for the safe operation of the vehicle while using this product.

FCC WARNING

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: The manufacturer is not responsible for and radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.