

MMRDS
USER MANUAL



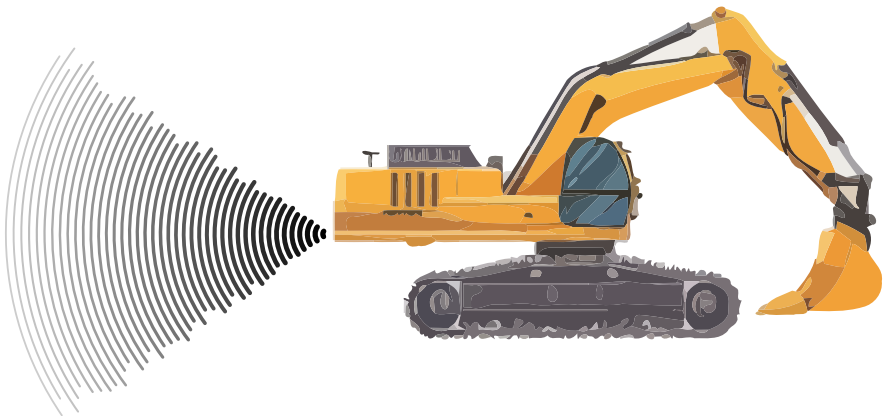
RADAR DETECTION
SYSTEM

WARNING

To prevent injuries, never rely solely on the Object Detection System for detecting pedestrians, cyclists, or vehicles. The Object Detection Radar System is not a substitute for attentive and careful driving.

SYSTEM OVERVIEW

A radar detection system is designed to detect objects in the vehicle's close-proximity blind spot and promptly inform the driver of their presence, enhancing overall awareness and contributing to safer driving conditions.



KIT CONTENTS

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RADAR SENSOR



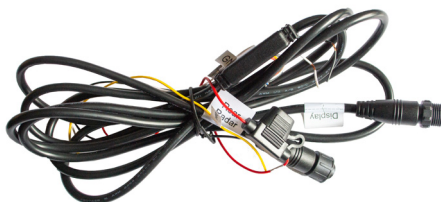
LED DISPLAY



SENSOR BRACKET



MAIN HARNESS



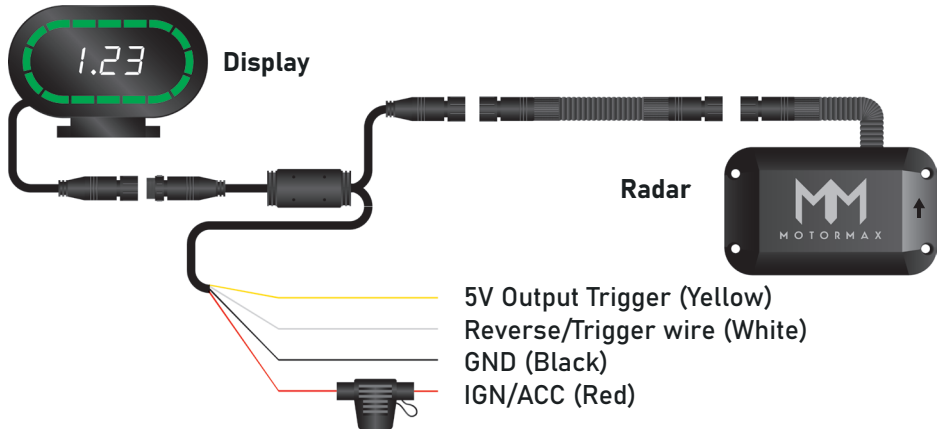
EXTENSION CABLE (X2)



ACCESSORIES BAG

- M5*20 screw 4pcs
- M5*12 screw 4pcs
- M4.8*16 screw 4pcs
- M5*16 screw 3pcs
- Cable Tie 10pcs

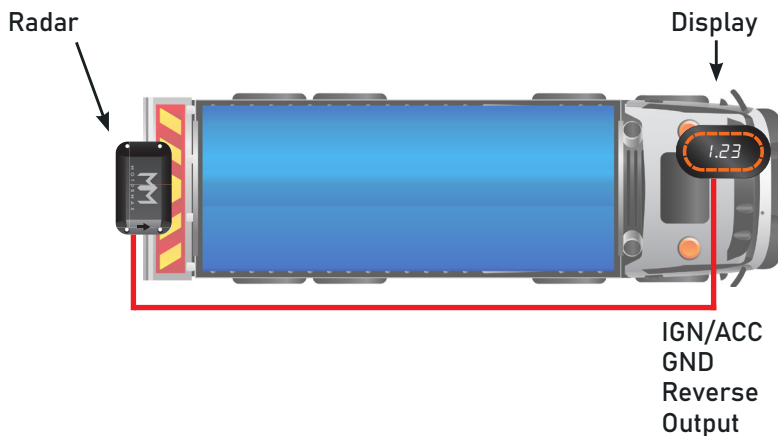
HARNESS LAYOUT



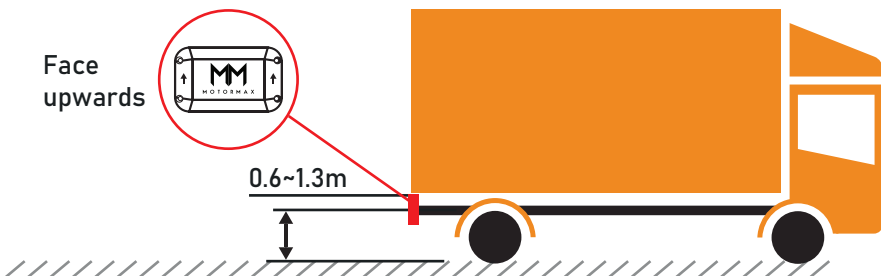
NOTE:

- (1) If the output cable is not in use, please wrap it securely to prevent any risk of a short circuit.
- (2) The output is positive, with a maximum voltage not exceeding 5V.

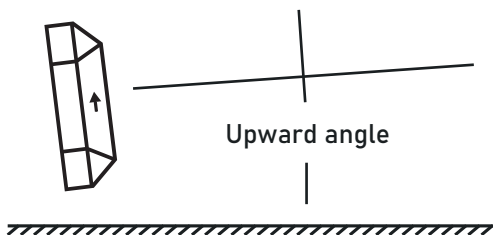
SYSTEM LAYOUT



INSTALLATION HEIGHT



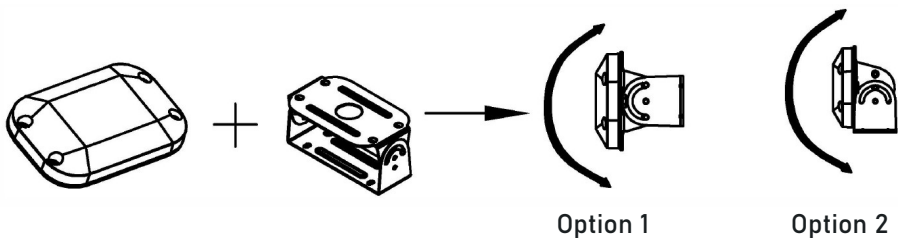
REQUIREMENTS FOR VERTICAL INSTALLATION ANGLE


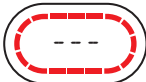


Installation height	Upward angle
0.6 - 0.75m	11°
0.75 - 1.3m	7°

SENSOR FIX:

The radar is installed on the vehicle body with a bracket, and the vertical installation angle is adjusted through the mounting bracket.

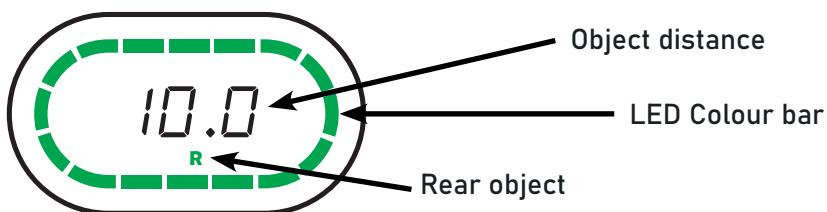


No.	System Status	Display warning method	
		LED bar	Buzzer built in
1	Pass		Beep (Bi-)
2	Sensor Failed		Beep Twice (Bi-Bi-)

BASIC FUNCTION






When the reverse gear is engaged, both the front and rear radar sensors are activated. The LED display will provide both audible and visual warnings to the driver, following these principles:

- (1) If an object is detected, the output cable will provide a high-level voltage; if no object is detected, the output will remain at a floating level.
- (2) When the reverse gear is engaged, the display will show the nearest distance to the detected object at the rear of the vehicle.



- (3) The display will show the distance to the detected object and emit warning beeps based on the proximity. The warning range is divided into five equal stages. For example, if the maximum detection range is 10 meters, the warning sections will be divided as follows:

BASIC FUNCTION

Item No.	Object distance	Distance showing	Colour bar showing	Beep frequency
1	No detection	- -	No showing	No beep
2	8.1 - 10.0m	8.1 - 10.0	Green LED bar 	BI-----BI-----BI BI--BI--BI BIBIBI The closer the distance, the faster the warning frequency
3	6.1 - 8.0m	6.1 - 8.0	Light green LED bar 	
4	4.1 - 6.0m	4.1 - 6.0	Yellow LED bar 	
5	2.1 - 4.0m	2.1 - 4.0	Orange LED bar 	
6	8.1 - 10.0m	0.81 - 2.0	Red LED bar 	
7	8.1 - 10.0m	-P-		

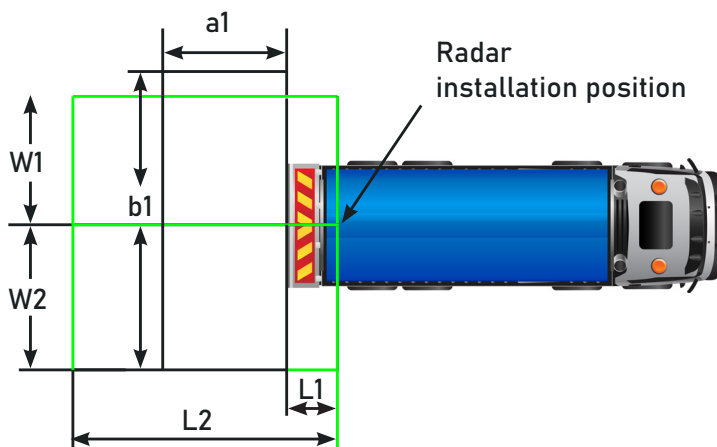
If the radar is not installed at the outermost side of the vehicle, it may detect parts of the vehicle or its accessories, leading to false alarms. To prevent this, the radar should be calibrated in learning mode to ignore these objects.

To enable the learning function, users should follow these steps:

A) Move the vehicle to an open area and confirm that there are no obstacles other than body accessories within $(a*b)m$ of the radar;

(1) $a1 > 4*L1$, and $a1 > 3m$:

(2) $b1 > W1+W2$, and $b1 > 6m$:



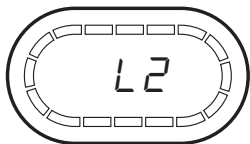
B) Turn on the system and wait for it to complete its self-diagnosis.

C) Press and hold the setup button for 1.5 to 3 seconds until the buzzer emits a single beep and the display shows "LO," indicating that the system has entered automatic learning function setup mode. Release the button, then press it briefly to switch the display to "L 1," which activates the automatic learning mode. The system will display the results after the learning process is complete. If "LS" appears and the buzzer beeps once, the learning process was successful. If "LE" appears and the buzzer beeps twice, the learning process has failed.

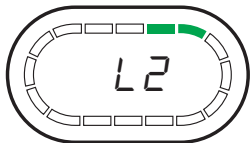
LEARNING FUNCTION



Press and hold the setup button for 1.5 to 3.0 seconds, then release it when "L0" appears on the display.



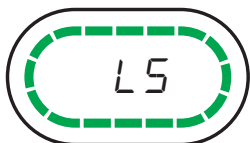
Then press the button to show L2.



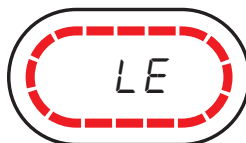
Enter learning mode



Check progress bar



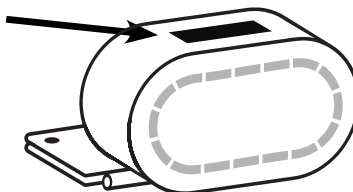
Learning successful
Single beep



Learning unsuccessful
Double beep

DISPLAY SETUP

Setup button



LEARNING FUNCTION & DETECTION RANGE SETUP

Setup button	Button pressing time	Setting function	LED bar showing	Definition
Volume button	0 - 1.5s	Volume	0	OFF
			1	Low
			2	Middle
			3	High
Setup button	0s - 1.5s	Imperial VS Metric display	F0	Metric
			F1	Imperial
	1.5s - 3.0s	Automatic learning function	L0	Off
			L1	Front sensor automatic learning
			L2	Rear sensor automatic learning

DETECTION RANGE SETUP

The detection range of the radar is shown in the drawing below. For different vehicle models and conditions, the detection area can be configured by handheld setup tool:

- L1:** Set up for protruding objects in front of the vehicle by measuring the distance from the sensor installation position to the foremost part of the vehicle: default value=0m;
- L2:** Warning distance: default value=10m (setup range 1-50m, accuracy 0.1 m);
- W1:** Right side detection width: default value=2m (setup range 1-5m, accuracy 0.1 m);
- W2:** Left side detection width: default value=2m (setup range 1-5m, accuracy 0.1 m).

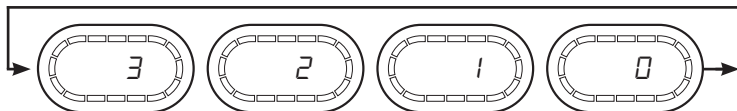
LEARNING FUNCTION & DETECTION RANGE SETUP

MMRDS

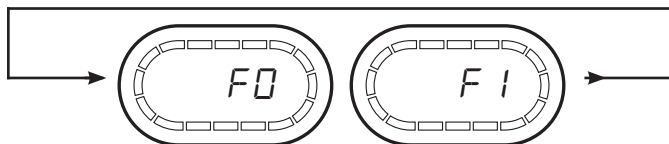
USER MANUAL

Remark

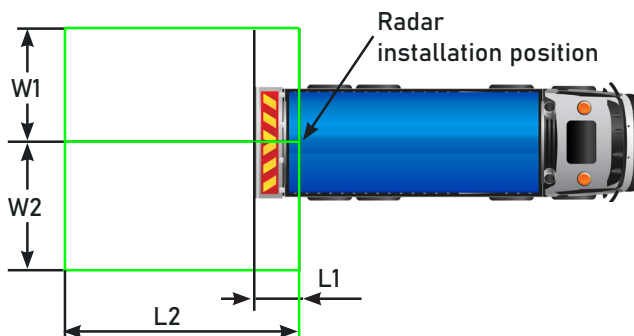
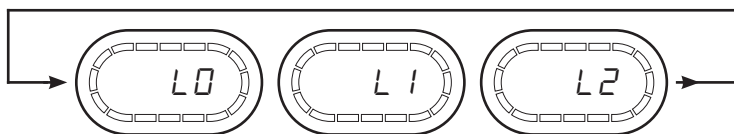
Press the setup button briefly, and the buzzer will beep once, entering volume adjustment mode. The display will show the current volume level. Each press of the setup button will cycle through volume levels 3, 2, 1, and 0. After setting the desired volume, stop pressing the button; the display will automatically save the setting and exit the adjustment mode.



Press and hold the setup button until the buzzer beeps once, entering the display system settings mode. The display will show the current status. Each press of the setup button will cycle between "F0" and "F1." Once you stop pressing the button, the system will automatically save the setting and exit the mode.



Press and hold the setup button until the buzzer beeps once to enter the display system settings mode. The display will show the current status. Each press of the setup button will cycle through "L0," "L1," and "L2." Once you stop pressing the button, the system will automatically save the setting and exit the mode.



TECHNICAL SUPPORT

For further support please call: **0121 353 3663**
Or email: technical@motormax.co.uk

