

77G Millimeter Wave Radar
MOIS
使用手冊

型號：RAR-7201

79G Millimeter Wave Radar
RPAS
使用手冊

型號：RAR-7203



中文

警告

- 產品的製造商和經銷商對車輛行駛過程中發生的碰撞或損壞不作任何保證或承擔責任。
- 取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。
- 低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前述合法通信，指依電信管理法規定作業之無線電通信。
- 低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

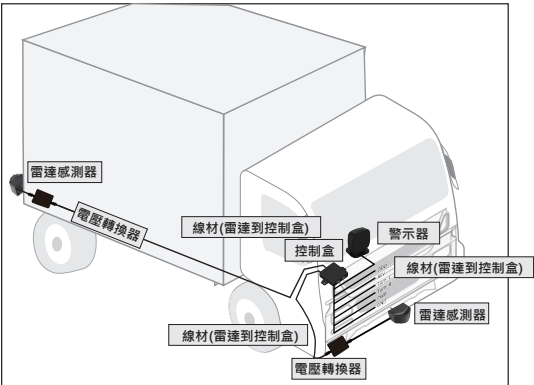
安裝說明

安裝提醒

注意！

- 由於車型配置不同，本說明書中的安裝圖僅供參考。

- 如果您對車內相關部件及本產品的安裝不熟悉，建議請專業技術人員進行安裝。



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技術規範

項目	規格
架構	雷達感測器+控制盒+警示器
水平視野	180°
啟動條件	MOIS: 0km/h ≤ 車速 ≤ 10km/h RPAS: 倒車檔位
偵測距離	5m*5m (目標物: ISO 19206-4:2020)
輸入電壓	9-36VDC 可支援 12VDC 及 24VDC
耗電流	最大值<7.0 W
警示	提示：LED 亮燈或閃爍 警告：同時LED亮燈或閃爍及蜂鳴器發出嗶-嗶-聲
介面	CAN/UART Reverse/Left turn/Right turn/Odometer
防水等級	IP69K (雷達感測器本體)
操作溫度	-40°C~85°C
產品尺寸	雷達感測器：48 X 39.95 X 27.8(mm) 控制盒：71 X 71 X 20(mm) 警示器：62.7 X 62.7 X 16.5(mm)
產品重量	雷達感測器：45.2g；控制盒：65.4g； 警示器：85.8g

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安裝說明

安裝要求

- 您可以使用測量角度功能的手機APP和APK，例如：「氣泡水平儀」應用程式...等。
- 安裝位置與角度要求如下表格，量測面如下圖所示。

功能	安裝高度	安裝角度 (垂直於地面)	安裝角度 (水平於地面)
前方雷達 MOIS	40~100公分	-2° ~ 2°	-2° ~ 2°
後方雷達 RPAS	40~50公分 50~60公分 60~70公分	0° ~ 2° -1° ~ 1° -2° ~ 0°	-2° ~ 2°



信號電源安裝

將如下車速/方向燈/檔位信號/電源/警示器連接到汽車電源系統。

	信號	備註		信號	備註
1	PWR	Ignition signal +12V/+24V (正電)	3	REVERSE	Reverse signal input (倒車檔位訊號)
2	GND	Ground (負電)	4	ODOMETER	Speed count input (車速訊號)

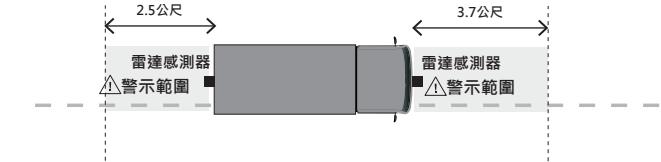
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包裝清單

項目	品名	數量	項目	品名	數量
1	雷達感測器	2	9	控制盒背膠	1
2	警示器	1	10	雷達感測器螺絲包	2
3	控制盒	1	11	警示器螺絲包	1
4	線材 (控制盒至訊號端及警示器)	1	12	定位卡	1
5	線材 (雷達至控制盒)	2	13	電壓轉換器	2
6	使用手冊	1	14	雷達感測器支架	2
7	束線帶	90	15	支架背膠	2
8	螃蟹夾	5			

警報範圍

- 車輛前方雷達盲點警示系統 (MOIS) 功能
車輛靜止與前行時，車前目標物靠近於警示範圍，警示器燈號亮起以提醒駕駛者。
- 車輛後方雷達盲點警示系統 (RPAS) 功能
車輛倒車時，車後目標物靠近於警示範圍，警示器燈號亮起以提醒駕駛者。



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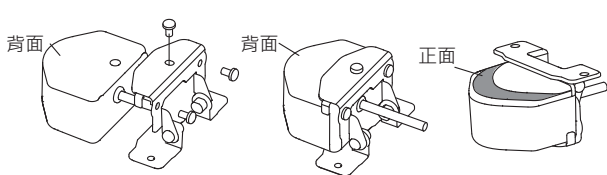
安裝說明

控制盒安裝 安裝於駕駛艙內任一位置即可。

警示器安裝 安裝於駕駛艙內駕駛視野30°~90°度之可視範圍位置即可。

雷達感測器安裝

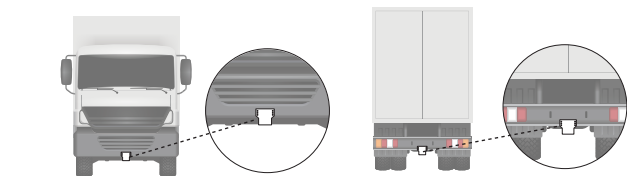
步驟一：雷達感測器支架鎖上。



步驟二：安裝前請確保安裝區域附近表面非常乾淨。

步驟三：將定位卡放到車輛前或後方之適合安裝位置並標記。

步驟四：雷達對準標記的位置並鎖附螺絲（細節請參考安裝要求）。



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注意事項

以下使用環境或情形均有可能導致側方雷達盲點警示系統功能檢測不穩定：

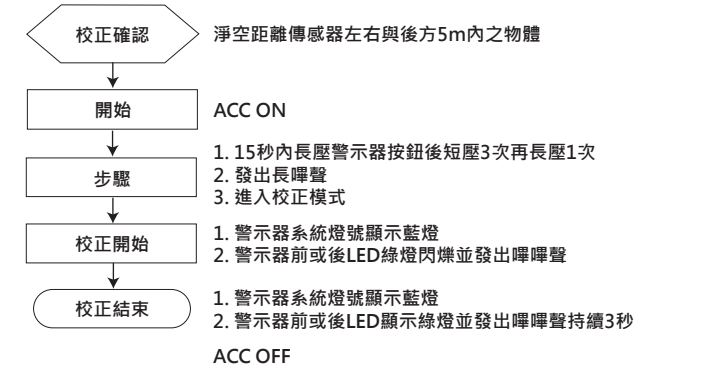
- 小直徑的東西，如：管子、電線...等。
- 可以吸收雷達波的材料，如：棉、毛衣、金屬、非反射表面...等。
- 草路或崎嶇道路上行駛時，如：上下連續陡峭斜坡、急彎、急煞停、急加速、連續彎...等。
- 泥、雪、冰、貼紙...等覆蓋在雷達感測器或周圍區域時。
- 大雨、大雪或大霧...等惡劣天氣下，在積水潮濕的路面上行駛時。
- 當您的車輛與警告區域的護欄、牆壁...等之間的距離較短時。
- 當你的車輛旁有較大靜止目標物時，較小之移動目標物偵測有可能受影響。

警告

- 本產品雖具備盲點偵測系統的功能，但不能用以取代或降低駕駛人，在駕駛前或駕駛時通常應具備的注意義務及應執行的任何檢查或操作，駕駛人在任何駕駛條件下，都應保持警覺性，符合一切安全駕駛標準，並遵守所有交通規則。
- 本產品在偵測車輛或摩托車或行人或自行車時均不保證 100% 的準確性，因此不保證任何相關的視覺警示性能。環境及其它因素都可能影響本盲點偵測系統的識別和反應性能，而導致警示無法正常運行。
- 駕駛人在使用本產品時，需始終保持專注於路況。當產品的警示燈亮起或者蜂鳴器發出警告聲響時，為避免發生意外，請仍保持對周圍車輛的關注。
- 為確保產品正常運作，建議至本產品合法經銷商或尋求專業技師安裝本產品。

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校正步驟（安裝後）



故障排除

	問題說明	造成原因	解決方法
1	警示器無功能	電源無法開啟	電源連接確認
		雷達傳感器毀損	請聯繫安裝服務廠
		雷達傳感器端鬆動	請聯繫安裝服務廠
		警示顯示器毀損	請聯繫安裝服務廠
		線材毀損	請聯繫安裝服務廠
2	偵測不良	雷達傳感器被污垢覆蓋	清除雷達上面異物 如仍持續不良，請聯繫安裝服務廠
3	失效模式	雷達偵測失效	重啟電源再次確認 如仍持續不良，請聯繫安裝服務廠
		線材連接鬆脫	確認線材連接狀態

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English

Technical Specification

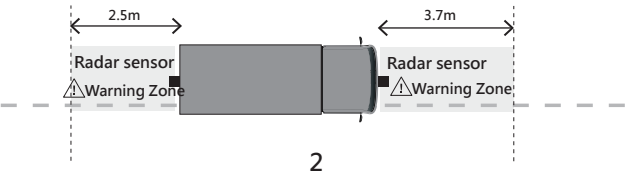
Item	Specification
Structure	Radar sensor + ECU box + Indicator
HFOV	Azimuth 180°
Active Condition	MOIS: 0km/h ≤ Speed ≤ 10km/h
Detection Range	RPAS: Reverse gear 5m*5m (Target object ISO 19206-4:2020)
Supply Input Voltage	9-36VDC available for 12VDC and 24VDC system
Power Consumption	(max.) <7.0 W
Alert	Information signal: LED on/flash Warning signal: LED on/flash with buzzer
Interface	CAN/UART Reverse/Left turn/Right turn/Odometer
Waterproof	IP69K (Radar sensor unit)
Operating Temperature	-40°C~85°C
Dimension	Radar sensor: 48 X 39.95 X 27.8(mm) ECU box: 71 X 71 X 20(mm) Indicator: 62.7 X 62.7 X 16.5(mm)
Weight	Radar sensor: 45.2g , ECU box: 65.4g Indicator: 85.8g

Packing List

Item	Description	Q'ty	Item	Description	Q'ty
1	Radar sensor	2	9	ECU adhesive	1
2	Indicator	1	10	Radar screw package	2
3	ECU box	1	11	Indicator screw package	1
4	Cable (ECU to signal)	1	12	Locating card	1
5	Cable (radar to ECU)	2	13	Adapter	2
6	User manual	1	14	Radar bracket	2
7	Cable tie	90	15	Bracket adhesive	2
8	Cable clip	5			

Alert Range

●MOIS function:
The radar sensor is used to remind the driver with the indicator if any object is getting close to the warning zone when the car is static or moving forward.
●RPAS function:
The radar sensor is used to remind the driver with the indicator if any object is getting close to the warning zone when the car is moving backward.



Attention

The following environments or events may cause MOIS · BSIS function detection instability:

- The things of small diameter, like pipe, wire...etc.
- Materials that can absorb radar waves, such as: cotton, sweaters, metals, non-reflective surfaces, etc.
- Driving on grassy or rugged roads, such as continuous steep slopes, sharp turns, sudden stops, sudden accelerations, consecutive turns, etc.
- When mud, snow, ice, stickers, etc., cover the radar sensor or surrounding area.
- During the severe weather, such as heavy rain, heavy snow, or thick fog, etc.
- A large stationary object next to your vehicle, the detection of smaller moving targets may be affected.

Caution

●Although it has MOIS · RPAS functions, it can't used to replace or reduce the driver's attention before driving and any operation. You should be kept on alert when driving to meet all standards of safe driving and obey all traffic rules also keep your focus on the road when using this product.

●This product isn't guaranteed to be 100% accurate in detecting vehicles, pedestrians, bicycles or motorcycles, therefore doesn't guarantee any visual warning. The environment and other factors may affect the identification and response performance of the blind spot detection, resulting in the warning not working properly.

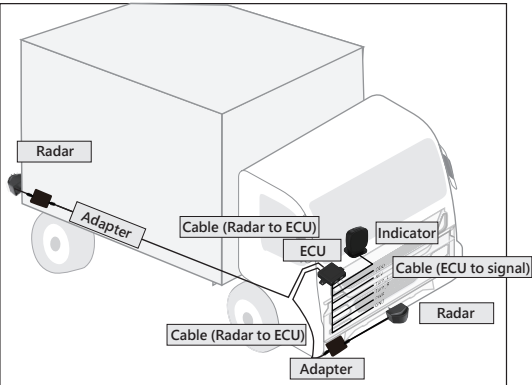
Caution

- When using this product, the driver needs to keep focusing on the road conditions. When the warning light is on or the buzzer is sounding, please pay attention to the surrounding vehicles to avoid accidents.
- Ensure the normal operation of the product, it is recommended to install the product at the authorized distributor of the product or seek a professional technician.
- Manufacturers and distributors of the product do not guarantee or assume liability for collisions or damages that take place during vehicle driving.

Installation

Installation of Vehicle

- Notice!
- As the configuration kind of car differs, the installation drawing in this manual is for reference only.
 - If the relevant components or installation is unfamiliar to this product,it is recommended that professional technicians install it.



Installation

Installation Requirements

- You can use the phone APPs and APKs with the function of angle measuring, such as Bubble level App, etc.
- The installation height and angle requirements are shown in the following table, and the measurement surface is shown in the below figure.

Function	Installation Height	Installation Angle (Vertical to the ground)	Installation Angle (Horizontal to the ground)
MOIS	40~100cm	-2° ~ 2°	-2° ~ 2°
RPAS	40~50cm 50~60cm 60~70cm	0° ~ 2° -1° ~ 1° -2° ~ 0°	-2° ~ 2°



Wire connection

Connect signal power as below to the vehicle power system.

	Definition	Note		Definition	Note
1	PWR	Ignition signal +12V/+24V	3	ODOMETER	Speed count input
2	GND	Ground	4	REVERSE	Reverse signal input

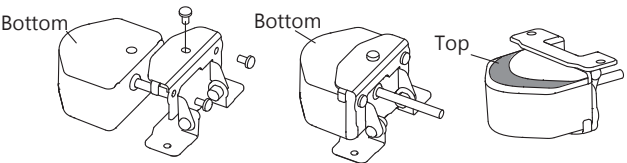
Installation

Installation of ECU Box Anywhere in the cabin.

Installation of Indicator In the visible range of 30° to 90° from driver's field of view in the cabin.

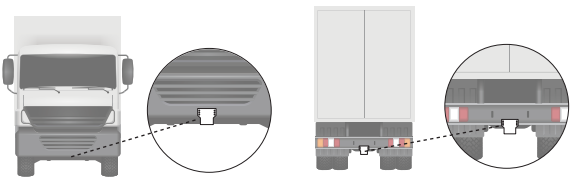
Installation of Radar sensor

Step 1: Before installation, make sure the area surface is cleaned.



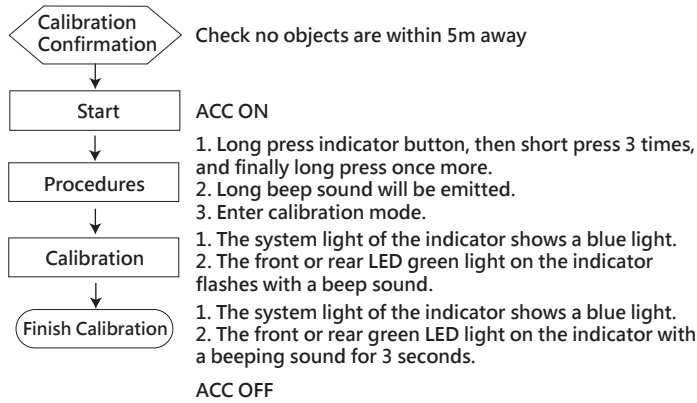
Step 2: Place the locating card in the appropriate installation and mark it.

Step 3: Align the radar to the location, and then lock and adhesive it.



Installation

Calibration Step (After Installation)



Troubleshooting

	Problem	Root Cause	Solution
1	Indicator no function	Cannot power on	Power connection verification
		Radar sensor damaged	Contact the installation service provider
		Radar sensor end loose	Contact the installation service provider
		Indicator damaged	Contact the installation service provider
		Wire damaged	Contact the installation service provider
2	Detection error	The radar sensor covered with dirt	Clean radar sensor. If still abnormal, please contact the installation service provider
3	Failure mode	Radar detection failure	Restart the power to check again. If still abnormal, please contact the installation service provider
		Loose wiring connection	Cable connection verification

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.