MRF600 Driver Assistance System

User Manual

Revision 1.0

1.Introduction

WISTRON MRF600 driving assistance system, based on self-developed leading computer vision technology, is capable of reducing collision accidents with early warnings after detecting potential collision dangers during driving, improving the driving safety.

MRF600 features lane departure warning, forward collision warning, headway monitoring and warning, virtual bumper, front vehicle departure warning, driving behavior analysis, data transmission, etc.

System Features:

Front Collision Warning
When the system detects an imminent collision danger with cars ahead, it will issue visual and auditory alerts up to 2.7 seconds in advance.

Headway Monitoring and Warning
When the vehicle is too close to cars ahead, MRF600 will issue visual and auditory alerts. It works when car speed is above 30Km/h by default.

Lane Departure Warning
When the vehicle drifts out of current lane without turn lights on, MRF600 will issue visual and audible alerts. It works when car speed is above 40Km/h by default.

Virtual Bumper
Virtual Bumper is designed to warn drivers of unintentional forward moving during a traffic jam, reducing the incidence of non-fatal “fender bender” accidents in low speed environment.

Front Vehicle Departure Warning
When the vehicle in front starts to move forward in a traffic jam while your vehicle stands still, MRF600 will give alerts.

2.MRF600 Accessories

Camera

Display Unit

CAN Box

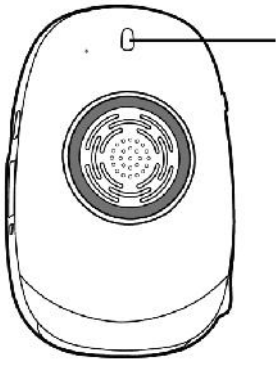
Cable

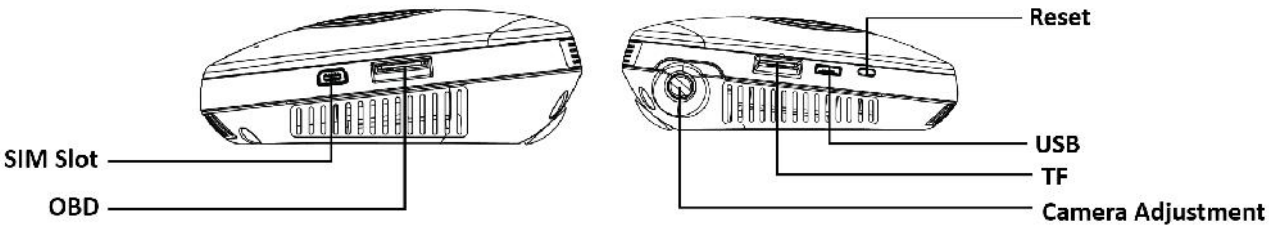
Base

Tubular Spirit Level

TF Card

SIM Card





3.Installation

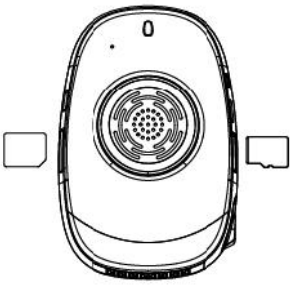
3.1. Preparation

- Make sure the vehicle is parked on a flat road with clear lane lines;
- Make sure the vehicle is not heavily loaded;
- Make sure there is no obstacles within 3 meters in the front of the vehicle;
- Install the calibration APP in an Android-powered smartphone;
  (scan the QR code to download or contact the manufacturer for the calibration app)
- Installation tools: screwdriver, insulating tape, diagonal plier, tapeline;

Installation Location: flat, clear lane, no obstacles in front

3.2. Device Installation

1). Insert SIM and TF card



2). Camera and Base Installation

Install the tubular spirit level on the base, and then fix the base to the top-center of the windshield.

- When the bubble in the spirit level is in the middle, the base is horizontal, and then take the level down;
- Use lens cleaning tissue to clean the camera lens, then fix the camera to the base.

Fix the base, and then take the spirit level down

Fix the camera to the base

NOTICE

If the vehicle is large in size, such as buses, trucks, etc, the camera should be fixed to the button-center of the windshield, as shown below:

Camera installation of larger vehicles

3). Display Unit Installation

Take off the sticker of the display unit, and stick the unit to a proper location that won't block the driver's view.

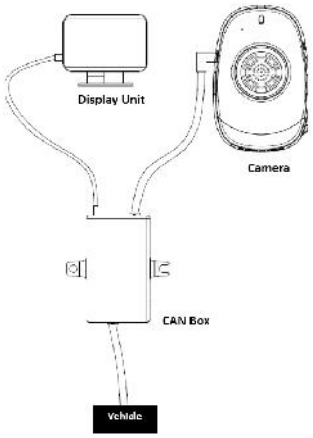
Install the display unit

4). CAN Box Installation

1) Connect the CAN box to the vehicle based on following instructions:
*The CAN box can be connected to the vehicle through CAN or hard wire to acquire the turn signals.

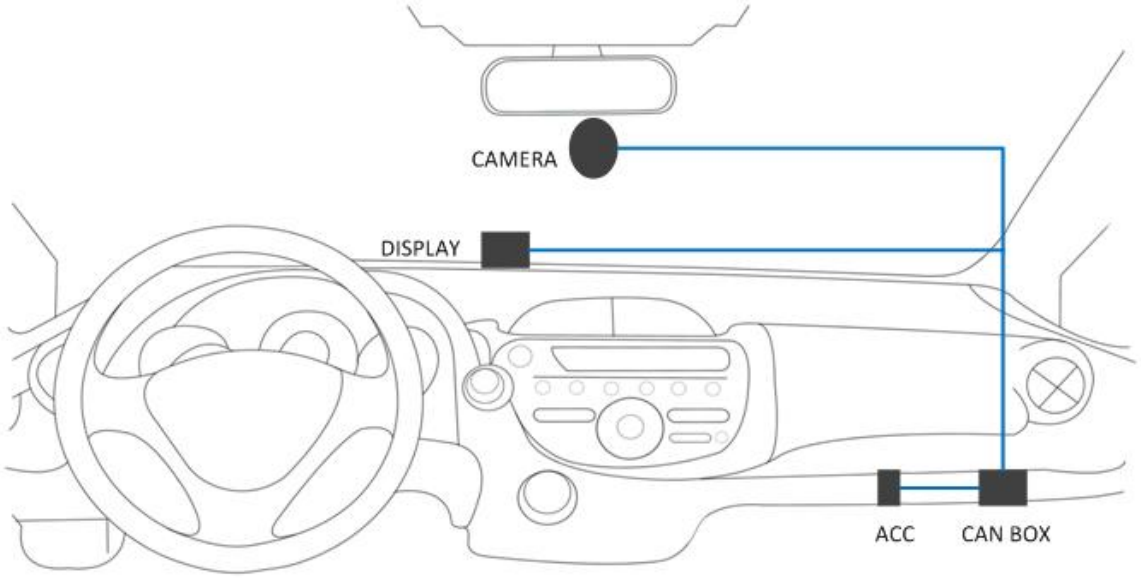
CAN Box		Vehicle
VCC		Power Positive
GND		GND
CAN	CAN_H	Vehicle CAN_H
	CAN_L	Vehicle CAN_L
OR		
Hard Wire	L	Vehicle Left Turn Signal Wire
	R	Vehicle Right Turn Signal Wire
	B	Vehicle Brake Signal Wire
	S	Vehicle Speed Signal Wire

2) Connect the CAN box the OBD of the camera;
3) Connect the USB of CAN box to the display unit;



3.3. Line Layout

Power the system on, and check whether the system could run normally. If the system could be powered on, hide the cables to make the vehicle tidy.

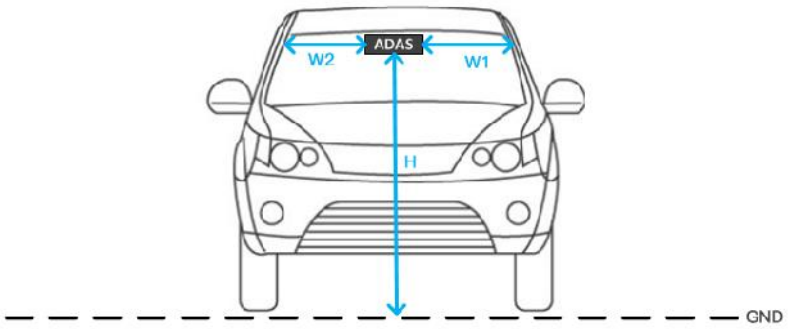


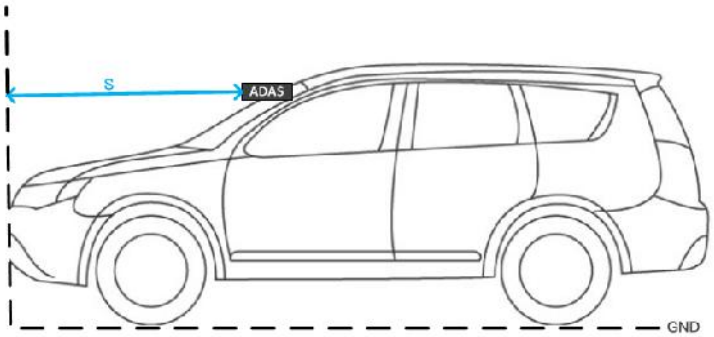
Please note that if MRF600 is installed on larger vehicles like buses or trucks, the camera should be fixed to the button-center of the windshield.

3.4. Data Measurement

After the device installation, measure following data for camera calibration.

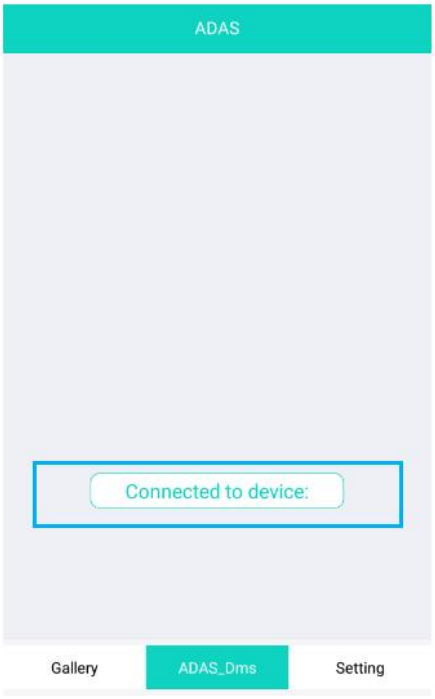
- H: the vertical height of camera to the ground;
- W1/W2: the distance of camera to the windshield left/right edge;
- S: the distance of the camera to the vehicle head

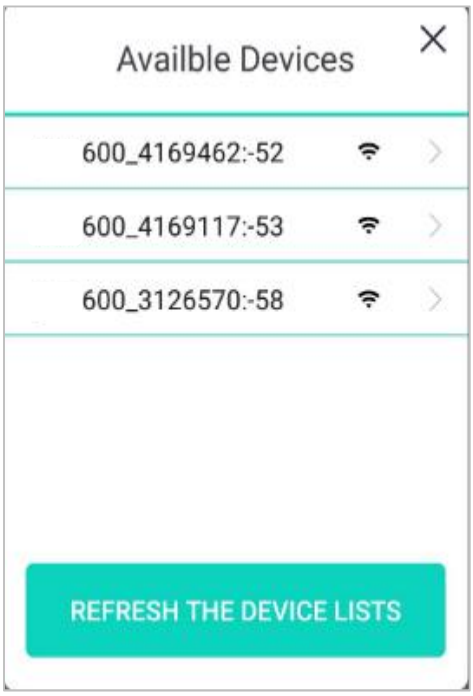




3.5. Device Calibration

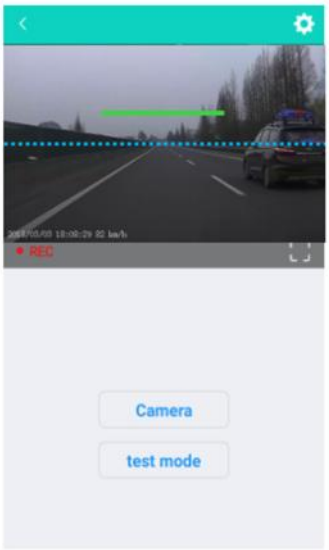
1) Install the calibration app, register and then log in.
2) Click on the *DEVICE CONNECTION* to connect to the device (WiFi name: 600_XXXXX, default password is 123456789)



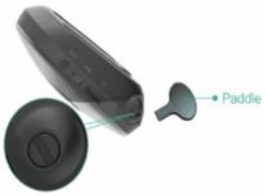


After the connection, the camera view will appear in the APP. Find the skyline, and then adjust the camera so that the green line could keep in line with the skyline.

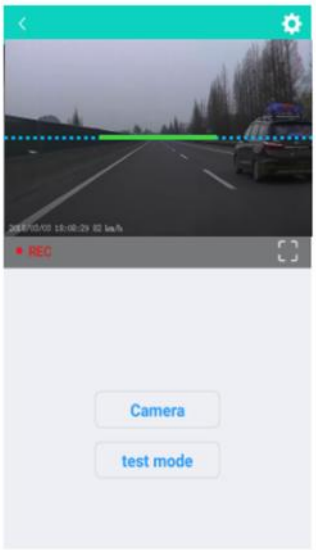
a. Find the skyline



b. Use the paddle to adjust the camera angle

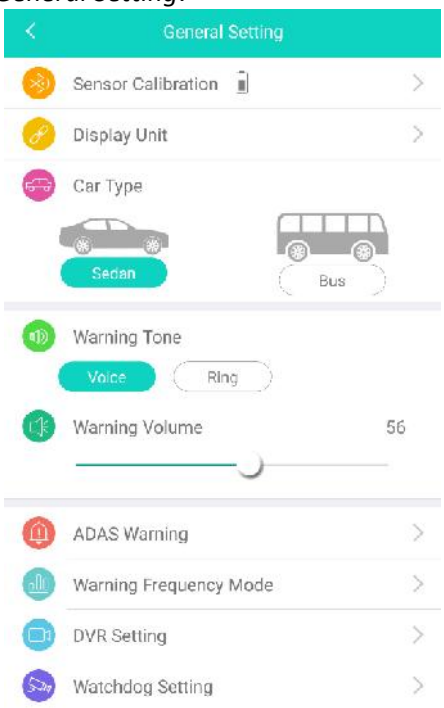


c. The green line could stay in line with the skyline



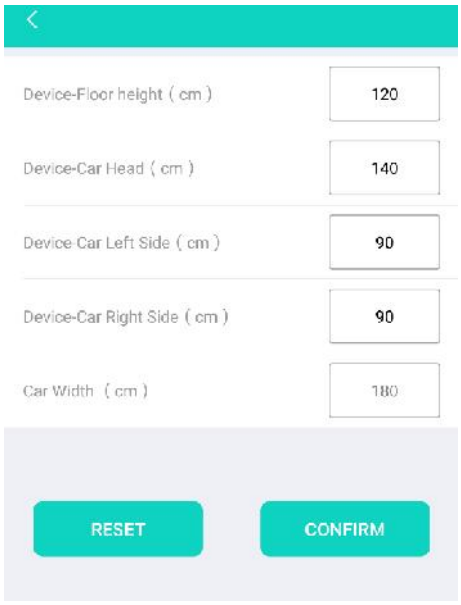
3.6. APP General Settings

Click on the icon to go to the *General Setting*.



- Display Unit: Click to bind the display unit, and when the red dot on screen turns green, the binding finishes.

- Car Type: Select the vehicle type before usage, and input the data measured before:



- Warning Tone: Voice / Ring optional

- ADAS Warning: Enable / disable some warning function

- Warning Frequency Mode: Three modes are available, as shown below:

FREQUENCY	HIGH	MEDIUM	LOW
FCW CAR SPEED THRESHOLD	*30 KM/H*	*40 KM/H*	*50 KM/H*
FCW ADVANCED WARNING TIME	*1.6 SEC*	*1.4 SEC*	*1.2 SEC*
LDW * CAR SPEED THRESHOLD	*40 KM/H*	*50 KM/H*	*60 KM/H*

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