DURITE®

durite.co.uk

@DuriteLimited

PRODUCT INSTALLATION MANUAL

0-870-58

Progressive Safe System (PSS)

Blind Spot Information System (BSIS)/Moving Off Information System (MOIS)

SAFE FLEET

Driving Safety Forward™

Tel: +44 (0) 1255 555200 | Email: sales@durite.co.uk | Website: www.durite.co.uk

Contents

Foreword 3
Glossary 3
Important Notice 4

1.System Overview **5**
1.1 System Overview 5
1.2 System Overview 5
1.3 System Wiring 6

2.Preparation For Installation **7**
2.1 Technical Requirements For Installation 7
2.2 Understanding Of Installation Environment 7
2.3 Confirmation Of Vehicle Conditions And Vehicle-Related Electrical Information 7
2.4 Power Supply Connection Of Vehicle 8
2.5 Connection Of Necessary Signal Cables 8

3.Preparation For Installation Material And Tool List **9**
3.1 Packing List Inspection 9-10
3.2 Preparation For Installation Tools 11-12

4.BSIS Installation **12**
4.1 Selecting The Installation Position For The Device 12-13
4.2 Installation Of The Extension Bracket 14-16
4.3 Installation Of The BSIS Camera 17-20
4.4 System Connection. 21-26

5.BSIS Calibration **27**
5.1 Blind Spot Detection Calibration Via Web Browser 27-37
5.2 Calibration With Easycheck AP Dongle 38-44
5.3 Calibration With Veyes App+ Wireless Router 45-49

6.Installation Of Accessories **50**
6.1 Installation Of B3 Notifier. 50
6.2 MOIS Installation 51
1.MOIS Component Introduction 51-54

7.Acceptance Inspection **54**
7.1 Cleaning 54
7.2 Installation Acceptance 54

8. Types Of Warning On The Alarm Panel **55**

Foreword

This Installation Guide is prepared to give guidance to engineering personnel to install the BSIS & MOIS as well as its accessories properly and quickly, and to improve installation efficiency.

This document includes the following parts: preface, system overview, preparation for installation, introduction to installation, and acceptance and cleaning.

This document is applicable to installation engineering personnel.

Durite Limited reserves the right of final interpretation of this document and the right to modify this document or information and descriptions therein. The contents of the manual are subject to change without further notice.

Glossary

PSS	Progressive Safe System
MOIS	Moving Off Information System
BSIS	Blind Spot Information System
Veyes	Calibration Application

Important Notice

1. Before installation, please park the vehicle on the horizontal ground and turn off the engine (do not park the vehicle on a ramp or an inclined road).
2. Please read the section of packing list carefully and check carefully at the time of unpacking.
3. Please read the section of tool list carefully and provide installation tools before product installation.
4. Before installation, please observe the vehicle environment and follow the principles below:
   a) The installation position and wiring of the product shall neither affect the driver's view nor affect the adjustment of the rear-view mirror.
   b) The installation position of the camera for monitoring the blind spot on the side shall comply with local regulations.
   c.) The installation position of the display screen and the audible and visual alarm in the vehicle shall not affect the driver's view.
   d.)Installing 0-870-58 requires drilling at the installation position for fixing and wiring.
5. The appropriate installation position shall be selected according to the vehicle environment, and this document is for reference only.
6. The appropriate power supply connection method shall be selected according to the vehicle environment. If loose wire connectors are adopted, connection to the power supply and all signal cables of vehicle is required, and shall be carried out by specialized personnel, as it may be dangerous for non-specialized personnel to operate the power system of the vehicle without authorization. This document is for reference only.
7. In case of any problem in the installation for special vehicles, please contact the product supplier in time for support.
8. The 0-870-58 product can be installed, configured and debugged using an internet browser. Browsers supported are Internet Explorer, Google Chrome and Microsoft Edge.
9. You can also connect the installation of 0-870-58 to the MDVR and use the Veyes app to debug and configure the device installation.
10. Please scan the QR code below, or search and download the Veyes app in the App Store. After download, you can connect the app to perform operations as needed following the instructions of the app.

iOS (App Store)

Android (Google Store)

1. System Overview

1.1 System Overview

0-870-58 is an intelligent IPC used for detecting pedestrians or cyclists in blind spots of large vehicles. Its AI detection scenarios meet the requirements of European safety regulation R151 and R159, and it is suitable for various large and medium-sized trucks.

It can be connected to an AHD camera for blind spot detection in front area of the vehicle. And can also be connected to an external display and audible and visual alarm device inside the vehicle for notifying the driver.

It features reliable quality, easy installation, simple operations, and competitive cost.

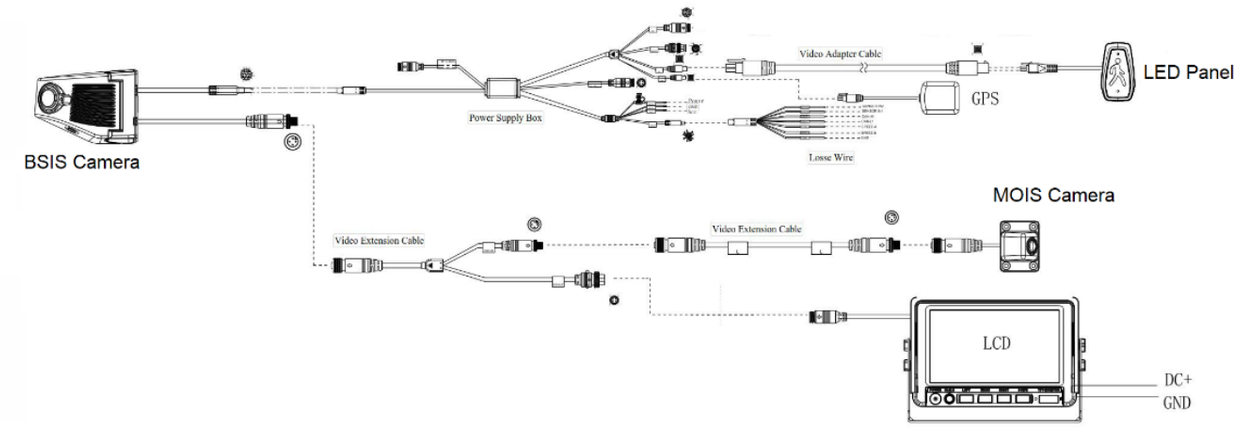
With the AI function, the product can identify potential risks in real time and remind drivers to avoid them in time in case of any driving safety risks, thus effectively reducing accidents.

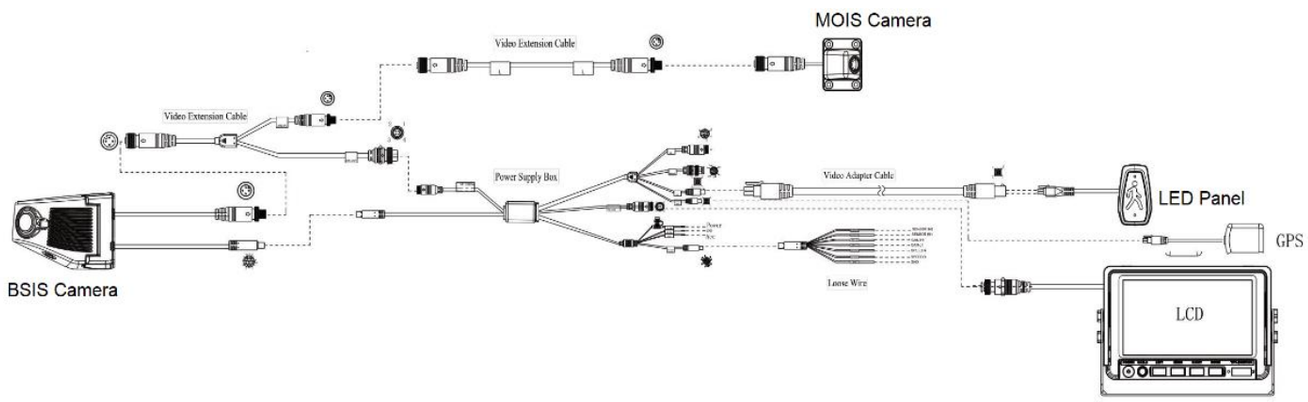
This product is suitable for most weather conditions with an ambient brightness greater than 15Lux, and can be installed on buses, ordinary passenger cars, passenger coach, trucks, dangerous goods transport vehicles, and dump trucks, including but not limited to M2/N2/M3/N3 types.

1.2 System Image

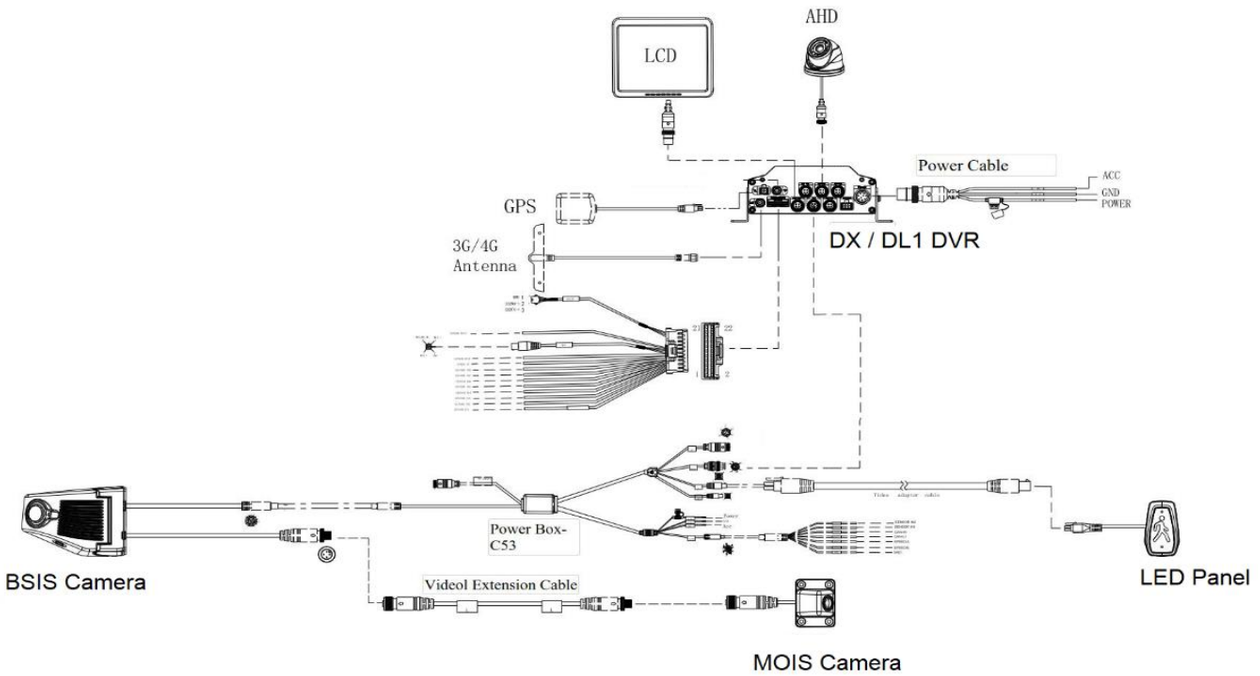
1.3 System Wiring Diagram:

1.3.1 Standalone System Wiring Diagram:





1.3.2 Incorporated MDVR System:



2. Preparation For Installation

2.1 Technical Requirements for Installation

Relevant personnel shall be familiar with the functions, applications, and the overall composition principle of the product.
Relevant personnel shall understand the electrical circuits, structure of motor vehicles, and common installation methods of in-vehicle devices.

2.2 Understanding of Installation Environment

Before device installation, relevant personnel shall have a clear understanding of the vehicle model concerned, the installation positions of the BSIS and MOIS cameras, the type and length of cables required for each vehicle model, and the list of common auxiliary materials, so as to ensure successful completion of device installation and commissioning.

2.3 Confirmation of Vehicle Conditions and Vehicle-Related Electrical Information

Confirmation of vehicle information is the basic precondition of successful installation and also the guarantee of division of responsibilities to avoid any damage to the vehicle. For each component, proceeding to next step is only allowed after clear confirmation, and each operation shall be confirmed by the person in charge of the vehicle and the installation personnel.

a. Check the appearance and interior trims of the vehicle for any damage.
b. Check whether the vehicle can start normally.
c. Check whether the vehicle power supply system is in good condition.

***Note: Confirmation of the above information is crucial. Installation can only be carried out after the above information is considered normal through confirmation.**

2.4 Power Supply Connection of Vehicle

i. Required tool: multimeter.
ii. Selection of power supply:

1. When the vehicle is shut down, use a multimeter to detect whether the circuit is live. If it is live, it is judged as a constant power supply, and then measure the voltage.

2. When the vehicle is shut down and is in ACC position or ignition state, use a multimeter to detect whether the circuit is live. If it is electrically neutral in shutdown state, and is live in ACC position or ignition state, it is judged as an ACC power cable, and then measure the voltage.

3. Voltage measurement of power supply:

   3.1 Main power supply: When the vehicle is shut down, use a multimeter to measure whether the voltage of the constant power supply cable is about 12V or 24V. If the voltage of multiple cables is about 24V in shutdown state, select the cable with higher current as the constant power supply connection cable.

   3.2. ACC: When the vehicle is in ACC position or ignition state, use a multimeter to measure whether the voltage is about 12V or 24V. If the voltage is 0 in shutdown state and about 12V or 24V in ACC position or ignition state, select the cable as the ACC power supply connection cable.

*Note: Before power supply connection, please conduct measurement and identify the positive and negative terminals of the power supply with a multimeter, to avoid wrong connection.

2.5 Connection of Necessary Signal Cables

To better use the 0-870-58, the following signal cables must also be connected:

1. Vehicle speed pulse cable or CAN data cable - to obtain accurate vehicle speed data

2. Left and right steering signal cables - to obtain left or right steering information of vehicle

3. Reverse gear signal cable - to obtain vehicle reverse gear information

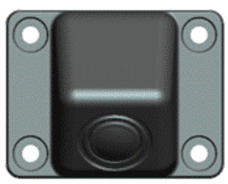
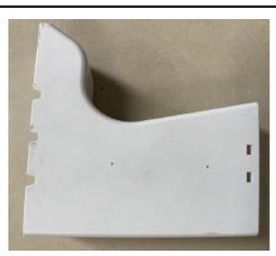
4. Please consult the maintenance engineer of the vehicle to determine the specific position of the vehicle speed pulse cable/CAN data cable. Generally, the left and right steering signal cables and the reverse gear signal cable are arranged on the fuse board below the steering wheel or below the front passenger dashboard, and measurement for these cables can be conducted using a multimeter.

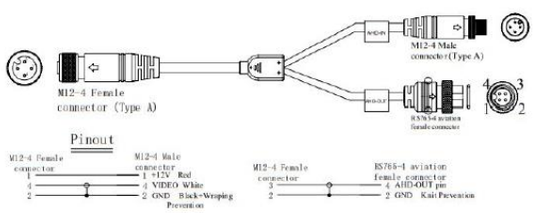
*Note: If the measured signal is a pulse signal, the source of left steering/right steering/brake signal shall be set as pulse on the setting screen of the MDVR; if the measured signal is a continuous high or low level signal, the source of left steering/right steering/reverse gear signal shall be set as level signal on the setting screen of the MDVR.

3. Preparation for Installation Material and Tool List

3.1 Packing List Inspection

After unpacking the product, please confirm whether the product is intact and whether the accessories are complete.

No.	Name	PCS	Package Inclusion	Picture	Cable Length
1	BSIS Camera	1	Yes		0.5m
2	MOIS Camera	1	Yes		0.5m
3	B3	1	Yes		2.5m
4	Extension Bracket	1	Yes		
5	Short Bracket	1	Yes		

No.	Name	PCS	Package Inclusion	Picture	Cable Length
6	Power Supply Box	1	Yes		5m
7	Loose Wire	1	Yes		5m
8	GPS module	1	Yes		3m
9	Video Extension Cable	1	Yes		5m
10	Screw	1	Yes		
11	B3 Extension Cable		Yes		2m
12	AHD Video Output Extension Cable		Yes		0.5m

3.2 Preparation for Installation Tools

Before installation, the following items are required.
These are not supplied, but recommended for installation.

S/N	Picture	Tool Name	Application	Quantity
1		Torsion Drill	Tighten screws	1
2		Screwdriver Kit	Tighten screws, optional	1 set
3		Cleaning Cloth	Cleaning the dashboard	1
4		Mobile Device	Installing the EasyCheck App for video preview and configuration	1
5		Steel Tape Measure	Measuring the installation height	1
6		Pen	Marking lines for MDVR installation	1
7		Cable Cutters	Cutting and stripping wires	1
8		Insulated Rubber Tape	Wrapping wire ends	1
9		Scissors	Cutting insulated tape or wire	1
10		Multimeter	Locating power supply. Measure conduction of the harness. Measure pulse signal.	1
11		3M Adhesive Tape	Fixing DMS camera	1
12		30M Measuring Tape	Ranging and calibration	1
13		Electric Hand Drill	Drilling holes on vehicle body	1
14		Steel Drill Bits	3.4mm and 3.8mm drill bits	Several
15		Tapper	Concealed installation of tail harness. 18mm and 20mm drill bits	Several

S/N	Picture	Tool Name	Application	Quantity
16		A Piece Of Steel Wire	Lead wires to pss through holes	1
17		EasyCheck AP Dongle	Calibrate camera	1
18		CableTies	Put harness in order	1 bag
19		Spirit Level	Ensure camera is installed level	1
20		Super 918A Glass Sealant	Seal holes on vehicle body for waterproofing	1
21		RJ45 Patch Cord	Debug & calibrate C53	1
22		RJ45 Cable	Debug & calibrate C53	1
23		Wireless-Router (AP)	Build LAN with C53	1
24		Ethernet adaptive cable	Connect C53 with 6-PIN ethernet port	1

4. BSIS Installation

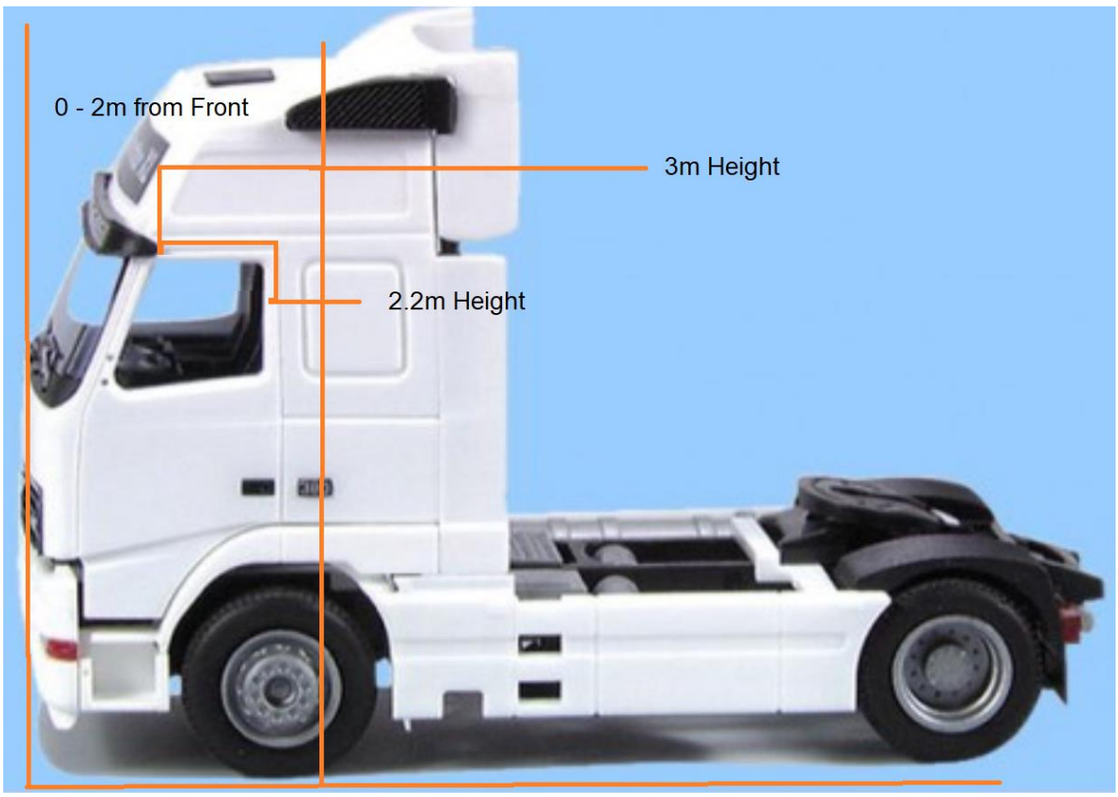
4.1 Selecting the Installation Position for the Device Requirements for the BSIS camera installation position:

1. **Installation height:** The distance from the bottom of the installation bracket of the BSIS camera to the ground should be between 2.2m & 3m, which should be selected according to the actual installation position of the vehicle.

2. **Installation position:** The BSIS camera shall be installed above the vehicle's rear-view mirror, with a distance from the installation position to the front of the vehicle ranging from 0m to 2m (The distance must not exceed 2 meters based on the actual installation scenario, and the image shall be unobstructed by the rear-view mirror or other protruding objects).

3. **Image effect:** The rear-view long-focus lens should not be obstructed and should protrude horizontally from the vehicle's body, so as to capture the entire blind spot range. The camera can be mounted on the short bracket plus an extension bracket is also available to extend the view of the camera.

The installation area is generally selected as shown in the figure below:



Note: If the vehicle's rearview mirror is too large to block the view of the camera, the product can be installed below the rearview mirror, but the installation height should not be lower than 2.2m. Below image as an example:

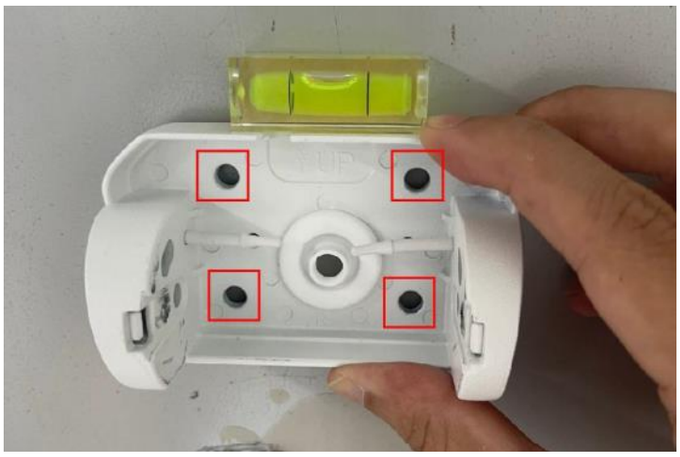
If there is no way to meet all requirements, the above all consideration should be ensuring that the camera captures the entire blind spot range. Secondary requirement in term of installation height should be higher than 2.2m, and the maximum distance of 2m from the front of the vehicle can be compromised based on the actual situation.

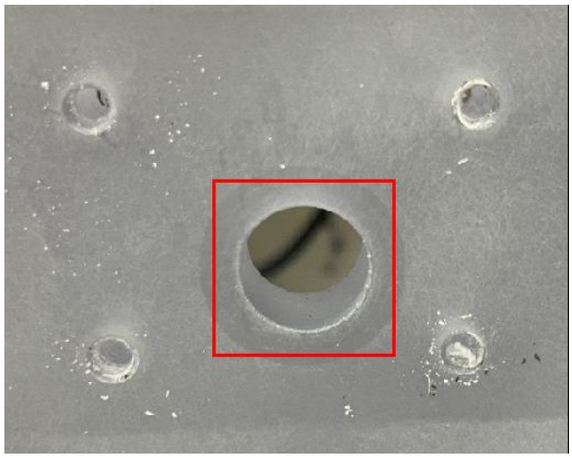
4.2 Installation of the BSIS Camera Bracket

4.2.1 Installation of the Short Bracket

1. First, clean the target installation area with alcohol pads or a cloth, making sure the area is free of dirt and dry.

2. With the vehicle standstill condition, place the spirit level on the short mount bracket horizontally with the protruding part of the bracket facing downwards. Adjust the orientation of the bracket to ensure it remains level (the bubble in the spirit level should be centred). Once the installation position is confirmed, use a marker pen to mark the centre of the bracket and the position of the screw installation, and then drill holes for wiring and fixing (a 3.5mm diameter drill bit is recommended), as shown in the images below:





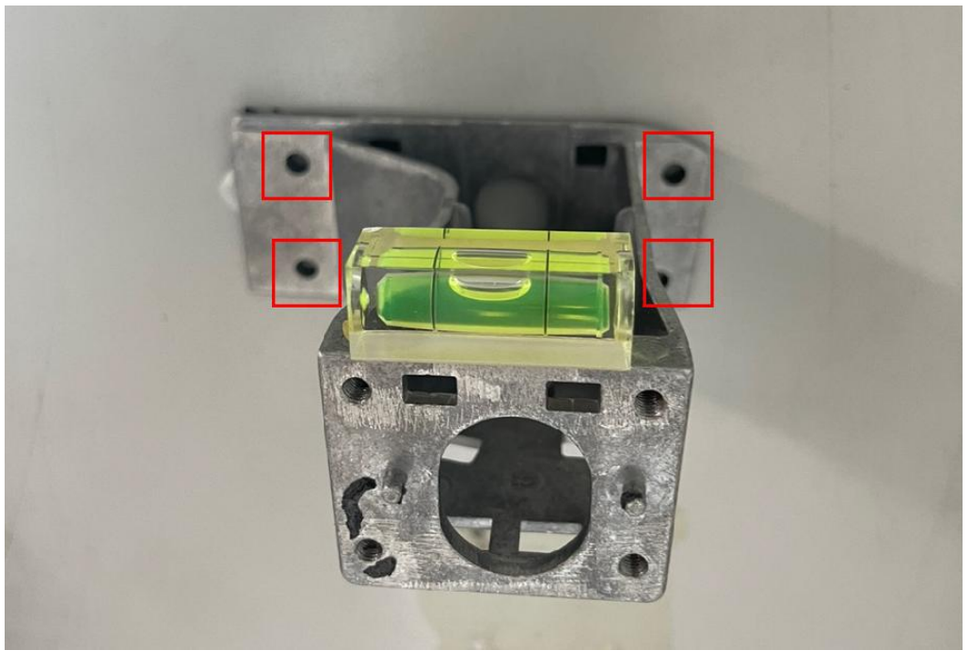
Ensure that the power cable can pass through the central hole. Then, apply waterproof sealant around the centre hole and affix the bracket. Use screws to fix the bracket in the four drill holes (as shown in the figure below).

4.2.2 Installation of the Extension Bracket

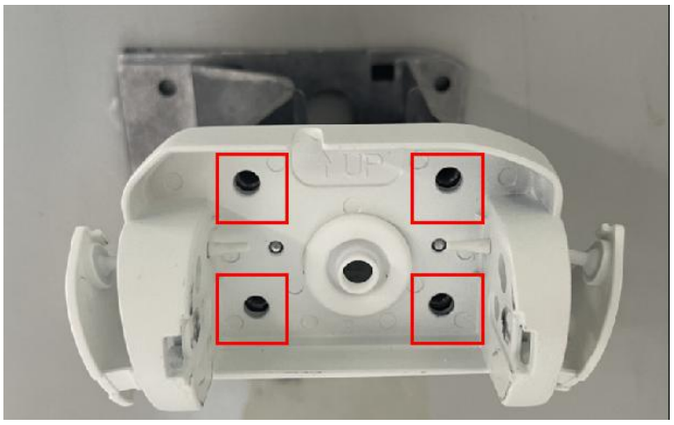
When the width of the cargo container is greater than the front-end width, there may be image obstruction. To obtain better image quality and ensure the accuracy of the notification, An extension bracket is needed for the device in such cases.
Installation steps:

1. First, clean the target installation area with alcohol pads or a cloth, making sure the area is free of dirt and dry.

2. With the vehicle standstill, place the spirit level on the installation bracket horizontally with the hollow part of the bracket facing upwards (as shown in the figure below). Adjust the orientation of the installation bracket to ensure it remains level (the bubble in the spirit level should be centred). Once the installation position is confirmed, use a marker to mark the centre of the bracket and the position of the screw installation, and then drill holes for wiring and fixing. After drilling, use screws to fix the bracket in the four drill holes (as shown in the red box in the figure below).



3. After securing the extension bracket onto the vehicle, place the short bracket onto the extension bracket and use four screws to fix it in the corresponding holes (as shown in the red box in the figure below).



4. After connecting the 2 brackets,install the external cover as per the below image to complete the bracket installation.

4.3 Installation of the BSIS Camera Device

4.3.1 Installation of Camera

After fixing the bracket, remove the level ruler and connect the camera to the bracket.
Pay attention to the wiring of the camera and the bracket (as shown in Figure 1 below).
The thicker wire needs to pass through the central hole in the bracket (as shown in Figure 1) and the thinner wire needs to pass through the upper hole in the bracket (as shown in Figure 2).
After confirming the wiring is correct (as shown in the figure below), use a cross screwdriver to rotate the screws in a clockwise direction on the sides of the bracket (as shown in Figure 3), but do not tighten them. Only tighten them after correcting the angle of the device.

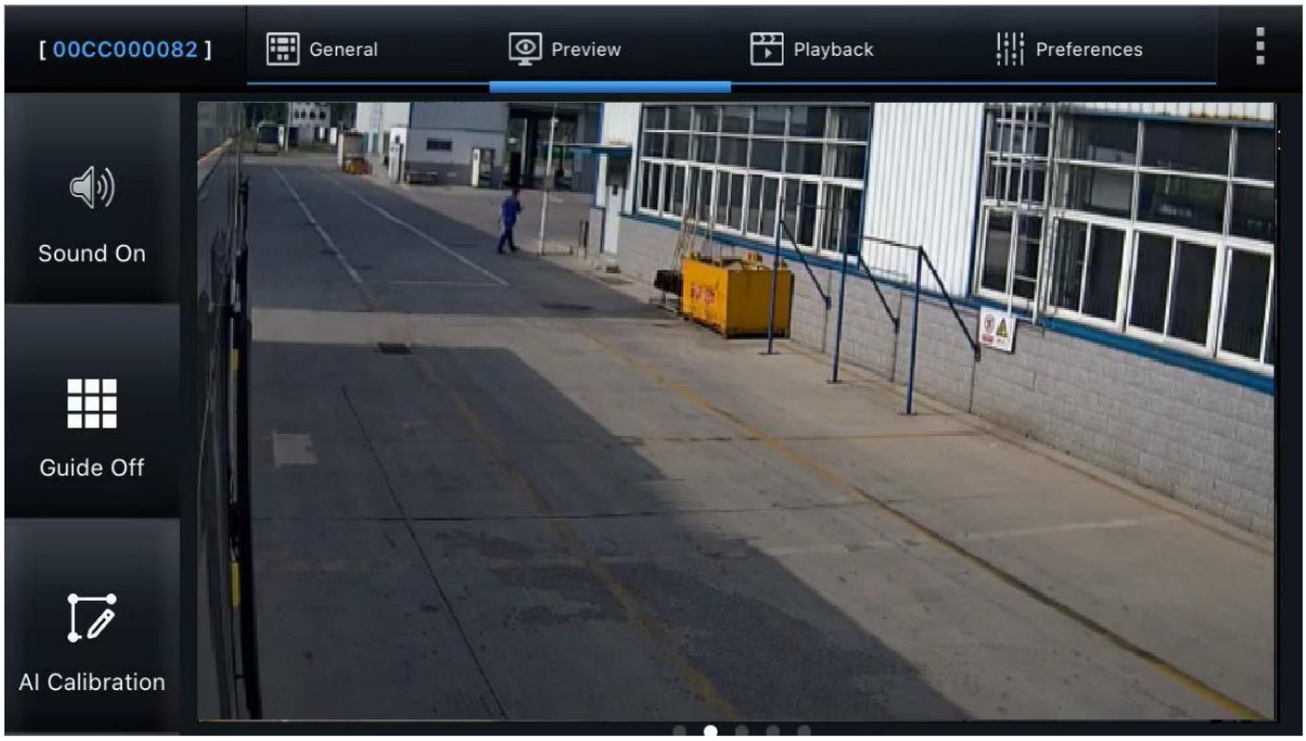
Figure 1

Figure 2

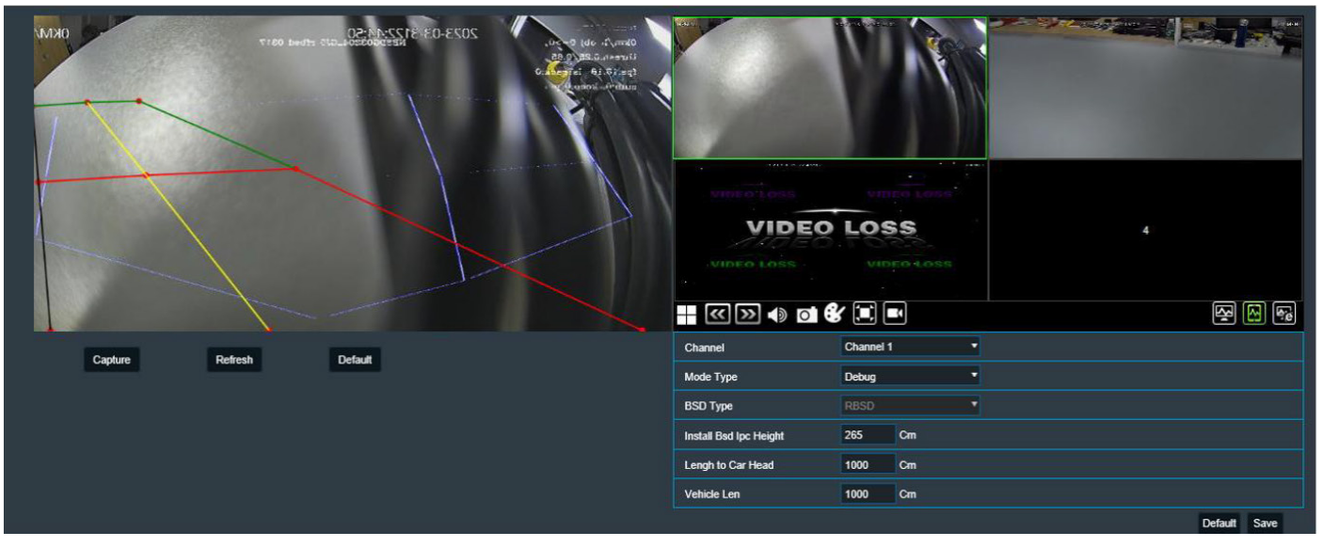
Figure 3

Figure 4

Note, to correct the angle of installation, technical personal should finish the system wiring connection and power on the device, then build communication between the camera and the mobile app Veyes to check the display image as on the next page. Enter Preview in Veyes,and check the image of overview lens and rear view lens:



If technical personnel install the system without an MDVR, the image is only available in IE browser of a computer (refer to chapter 5.1.1).



Adjust the angle of the device and ensure the image meets the algorithm acceptance criteria (as shown in the figure below), then tighten the screws on both sides (as shown in Figure 4) to fix the device in place and complete the final installation.

The image of overview lens and rear view lens should meet requirement on the next page:

A. Adjustment according to the overview image:

1. Symmetrical image on the left and right

2. The bottom of the image should be parallel to the bottom of the vehicle body in the centre of the image.

B. Adjustment according to side rear view image:

1. Make sure that the pedestrian standing in the middle of the rearview camera screen is perpendicular to the horizontal line of the entire screen.

2. Ensure that a tiny part of vehicle body is exposed in the screen to ensure that there is no hidden area close to the body.

4.3.2 Waterproofing

Since installing the BSIS camera requires drilling holes, it is necessary to prevent water from entering the vehicle after installation. After installation, use sealant to waterproof the area where the device contacts the vehicle.

Sealing steps:

1. Clean the area around the contact between the device and the vehicle, then attach masking tape to the surrounding area where the sealant needs to be applied, as shown in the figure on the left below, to prevent the sealant from overflowing.

2. After attaching the masking tape, apply the sealant around it.

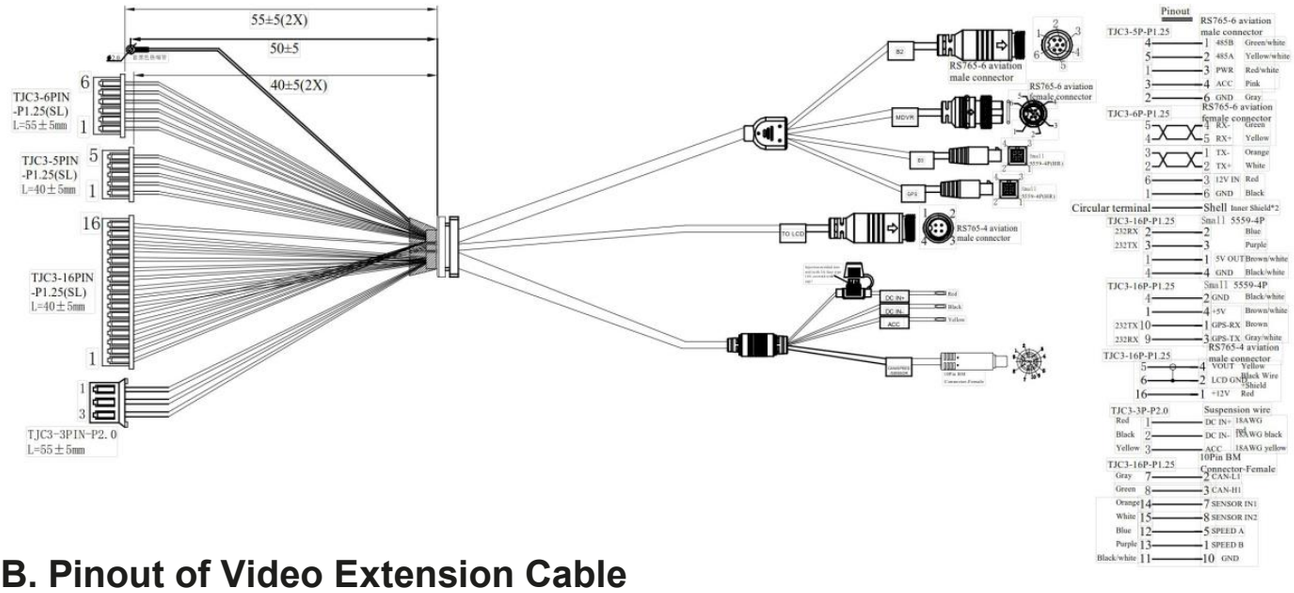
3. Once the sealant is dry (about 24 hours), remove the tape to complete the waterproofing, as shown in the figure on the right below.

4.4 System connection

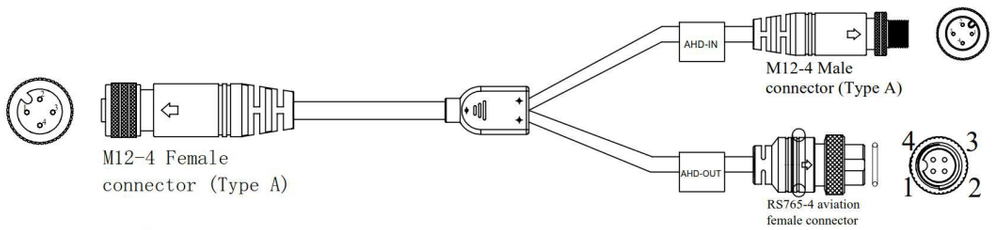
Refer to the system wiring diagram of Chapter 1.3 and following cable pinout to finish the system connection.

4.4.1 Single cable pinout:

A. Pinout of power box:



B. Pinout of Video Extension Cable

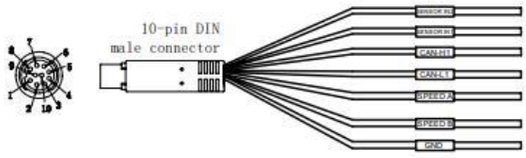


Pinout

M12-4 Female connector	M12-4 Male connector	
1	1	+12V Red
4	4	VIDEO White
2	2	GND Black+Wraping Prevention

M12-4 Female connector	RS765-4 aviation female connector	
3	4	AHD-OUT pin
2	2	GND Knit Prevention

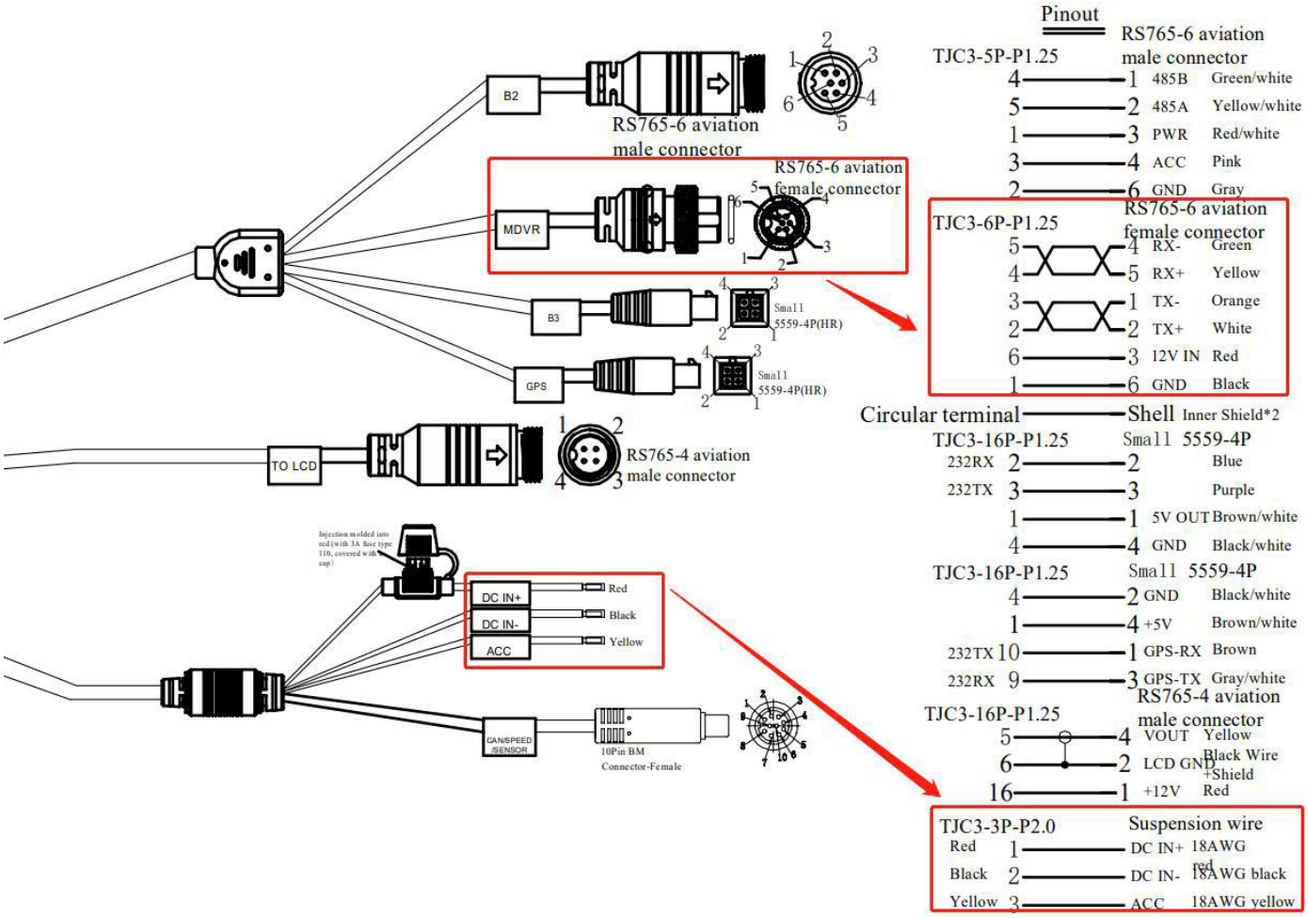
C. Pinout of Signal Cable



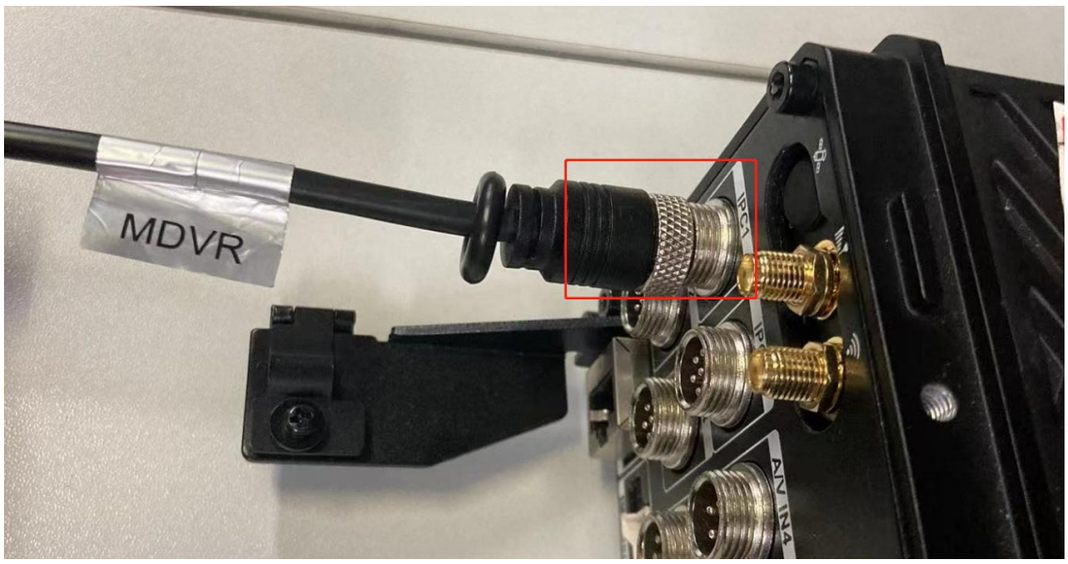
Pinout

10-pin DIN male connector		
1	SPEED B	Gray
2	CAN-L1	Green
3	CAN-H1	Yellow
5	SPEED A	Blue
7	SENSOR IN1	Green/black
8	SENSOR IN2	Green/yellow
10	GND	Black

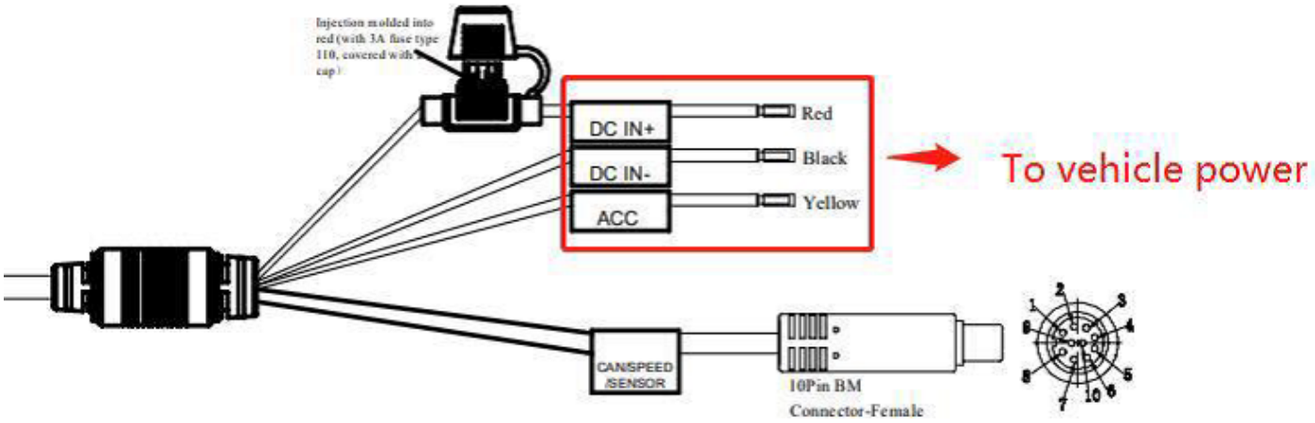
There are two ways to power camera:

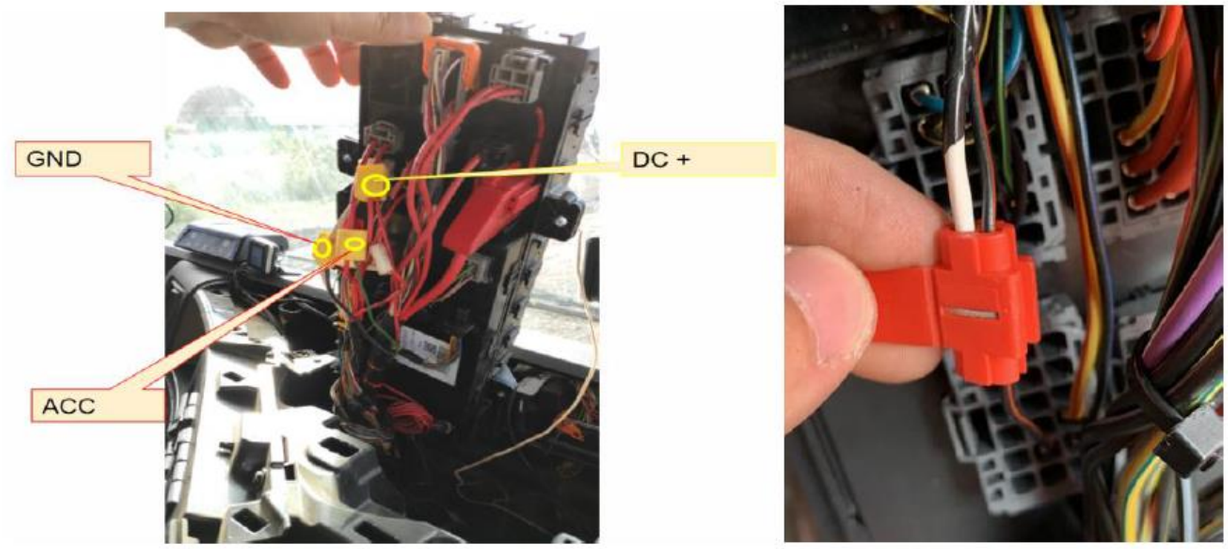


1. Power supply from the MDVR: Connect the 6-pin aviation female plug of the tail cable in the BSIS camera power supply box directly to the MDVR IPC port to complete power supply and signal data acquisition, without additional wiring.
   The BSIS camera is able to work with Durite 0-876-01 & 0-876-04 model MDVRs.



2. Power supply from the MDVR: Connect the 6-pin aviation female plug of the tail cable in the BSIS camera power supply box directly to the MDVR IPC port to complete power supply and signal data acquisition, without additional wiring.
   The BSIS camera is able to work with Durite 0-876-01 & 0-876-04 model MDVRs.





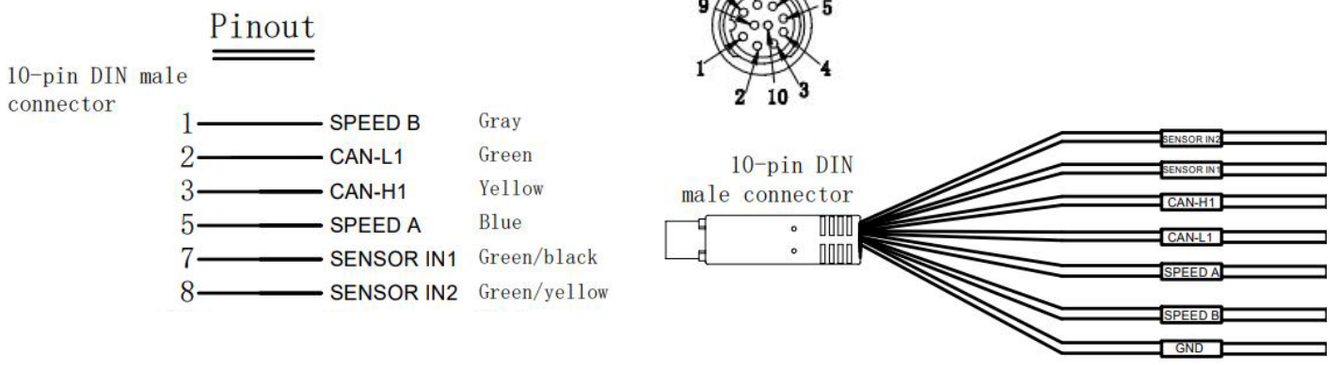
*Note:
The power cable shall be connected using "special stripping-free connection terminal" where possible (no stripping is required, so as to avoid the risk of electrical shorts), and the connection shall be wrapped with insulating tape to avoid short circuit.
If there is no special stripping-free connection terminal, stripped wires can also be used for connection.
In this case, the connection work process must conform to the standard specifications for electrical connections. After the connection is completed, the connection shall be covered with insulating tape to avoid a short circuit.

4.4.2 Connection of Signal Cables (Pulse or CAN/Left/Right Steering Signal/Reversing)

In case that BSIS camera is used without an MDVR, it is necessary to connect the unit to access some main signals of the vehicle. The signals that need to be accessed include: CAN signal, left and right turn level signal, speed pulse signal, reversing signal.

Pinout of Signal Cable:

1) Vehicle speed pulse or CAN (one out of two)



Consult the maintenance engineer of the vehicle discipline to locate the vehicle speed pulse cable.
In the power supply loose wire of BSIS camera:
Connect "SPEED A" to the vehicle speed pulse cable;
Connect "SPEED B" to the vehicle ground wire.
After completing the wiring refer to Chapter 5 to set the configurator (using the browser or DVR or Wifi) to allow the system to use the speed pulse.
After calibration, you can move the vehicle a short distance at the installation site to test whether the vehicle speed pulse data is accurate.

***Note: To avoid interference with vehicle speed pulse by other electrical signals of the vehicle, a ground wire must be connected here.**

2) Left steering/right steering/reversing signal

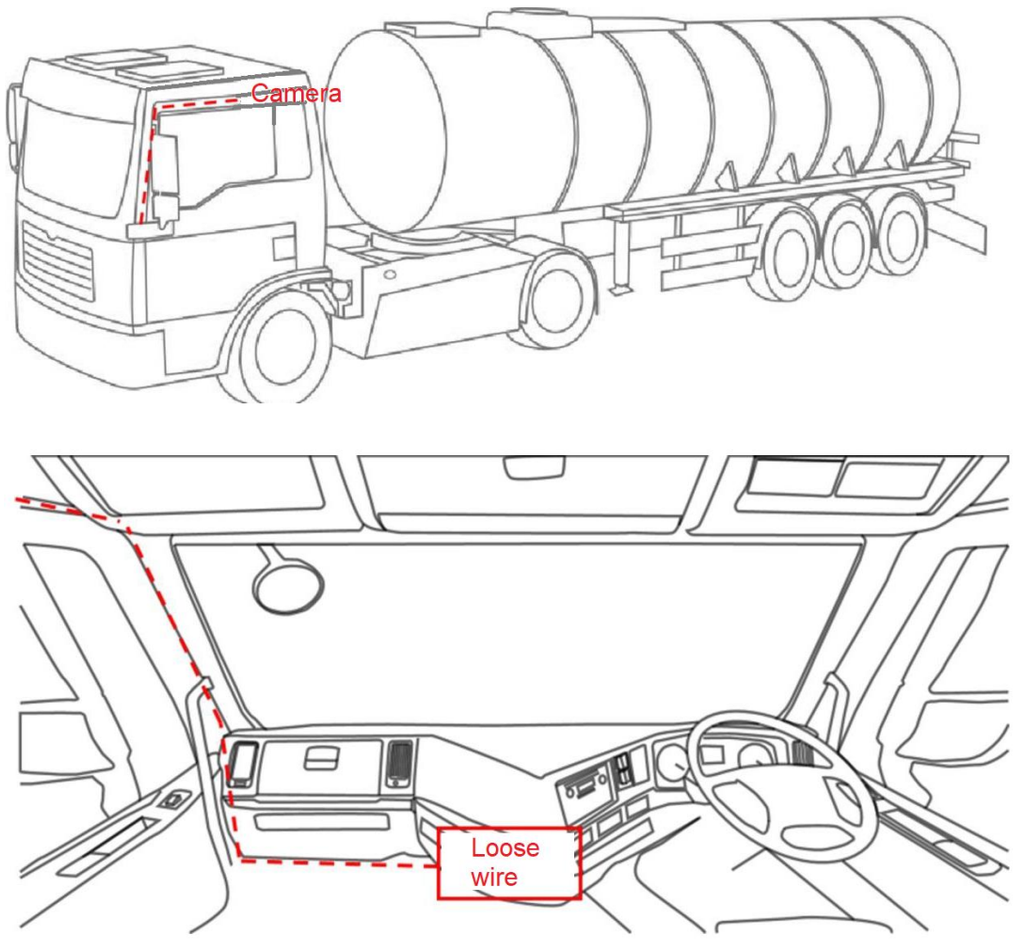
After locating the fuse box below the steering wheel or the co-pilot dashboard, measure the cable corresponding to left steering/right steering/reversing signal according to the tips on the cover back of the fuse box or using a multimeter.
For the standard loose wire, there are only two IO signal cables, so only connect to either right or left steering signal respectively for either left-hand driving and right-hand driving, plus the reversing signal is required.

***Note: If the signal being measured is a pulse signal, the signal type should be set as "pulse" in the MDVR setting interface through Veyes APP. If the signal being measured is a continuous high or low level signal, the signal type should be set as "level" in the MDVR setting interface.**

4.4.3 System Wiring

Upon the completion of connection of main cables according to the wiring diagram of system connection, as well as power supply connection and connection of signal cables, arrange these cables according to the diagram below and conceal them in the interior trim panel or the panel of the dashboard (i.e. concealed cabling).

When using loose wires for power supply, one recommended wiring method in the vehicle is as follows:



Since the BSIS camera has a power supply box, the power supply box needs to be fixed to a certain position in the vehicle. Attention should be paid to the following items when the fixing position is selected:

1. It should be close to the loose wire power input.
2. The mounting position should be flat.
3. It does not interfere with other components of the vehicle.
4. It should be as secluded as possible.

Due to the different interface positions of various vehicles, the corresponding wiring method and the location for fixing the power box also vary. Here we recommend two installation positions for the power supply box. You can also fix the power supply box in other positions according to the actual vehicle.

Recommended fixing position 1:
Remove the side baffle of the driving seat, clean this area, tear off the 3M tape on the power supply box, and fix it to the left or right baffle, as shown below:

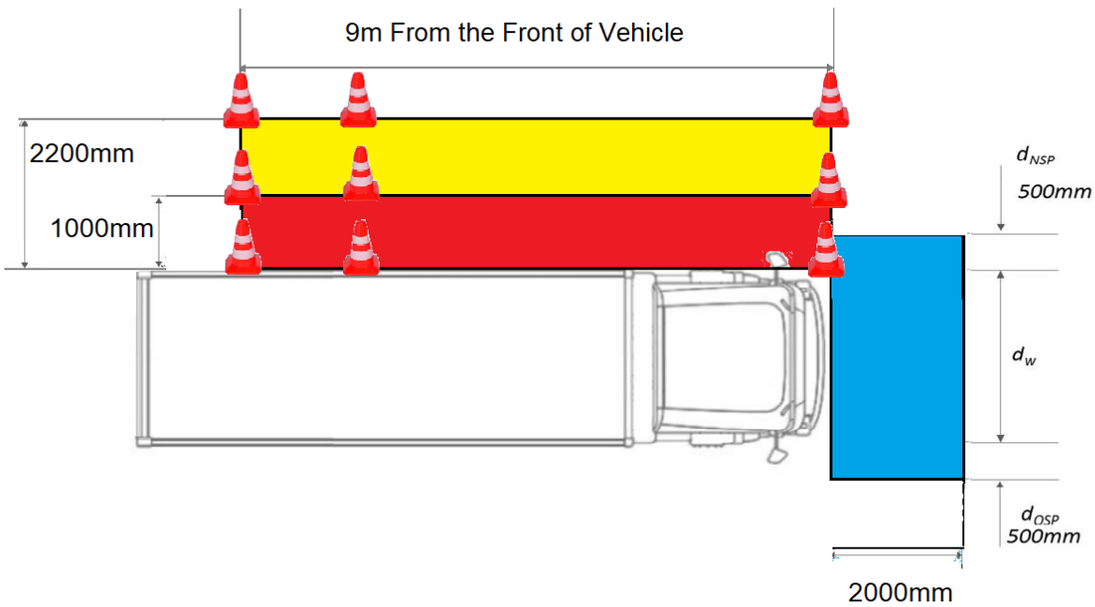
Recommended fixing position 2:
Clean the left side baffle of the driver's seat and fix the power supply box on it using the exposed wiring method. After selecting the fixing position, tear off the 3M tape on the power supply box and fix it on the left baffle of the driving seat, as shown below:

5. BSIS Calibration

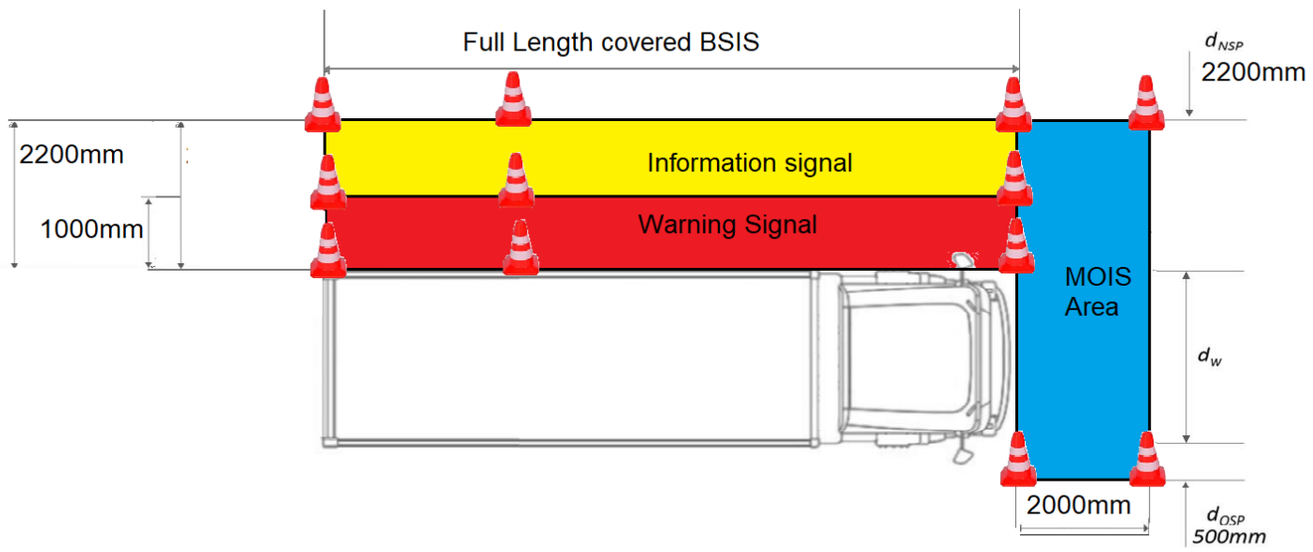
5.1 Blind Spot Detection Calibration via Web Browser

Before calibration, place a total of 12 traffic cones (or fire extinguishers) at the corners of each rectangle on the side of the vehicle as shown in the box in the following figures.
The below shows the minimum calibration size to conform to the TfL PSS requirements and also the Durite recommended calibration size.

TfL coverage area requirement:

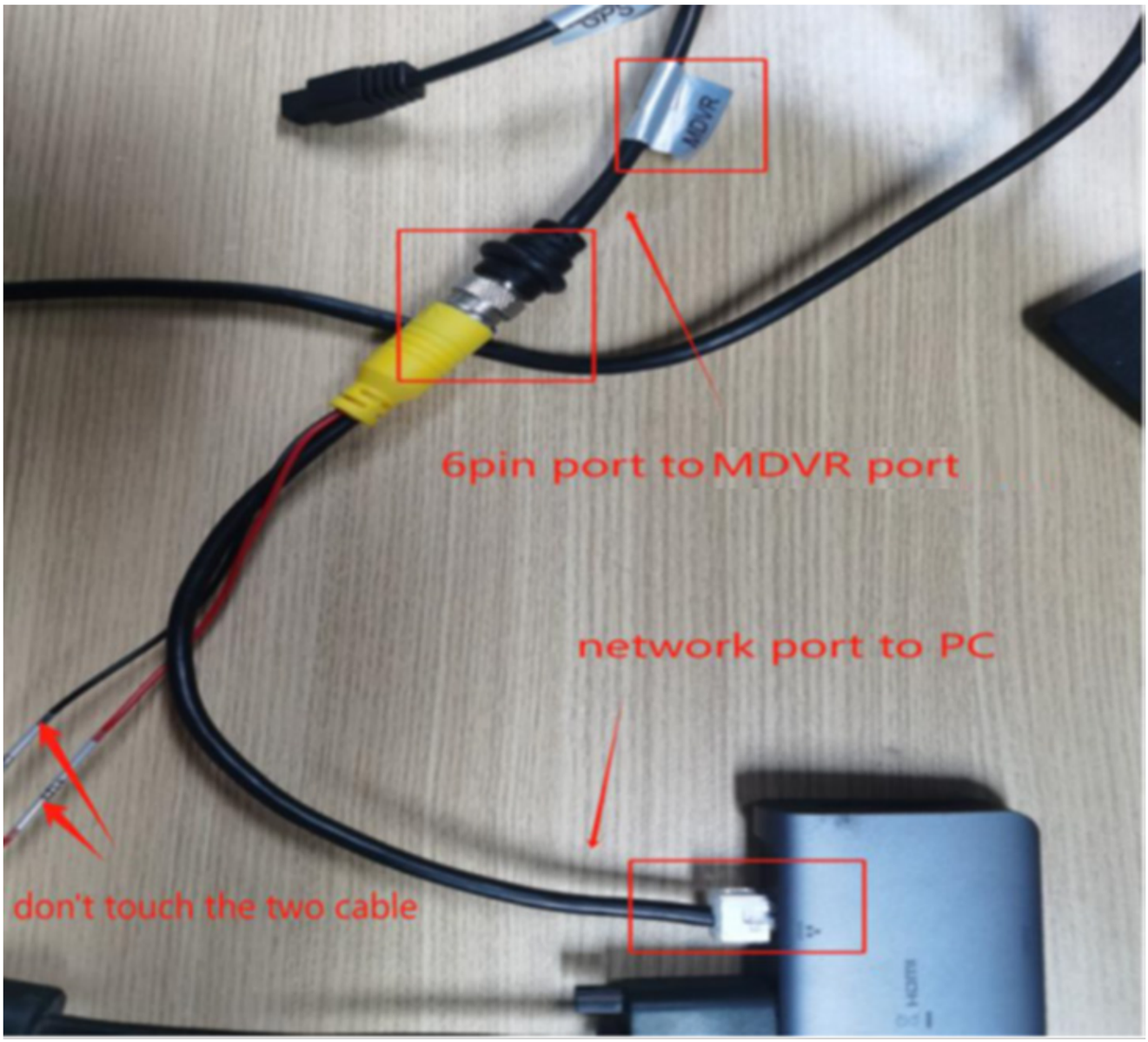


Durite PSS recommendations from live testing:

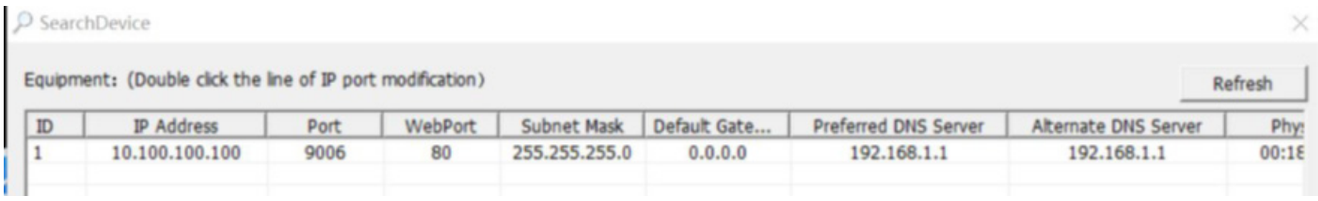


We are recommending to calibrate the MOIS to cover further out on the left side of the vehicle as when testing we have found there is a blind area caused by the A Pillar which the TfL guidelines of only covering 0.5m to the side. We also recommend for the BSIS to cover the Full vehicle length as our system will support this for Rigid and Articulated vehicles with trailers.

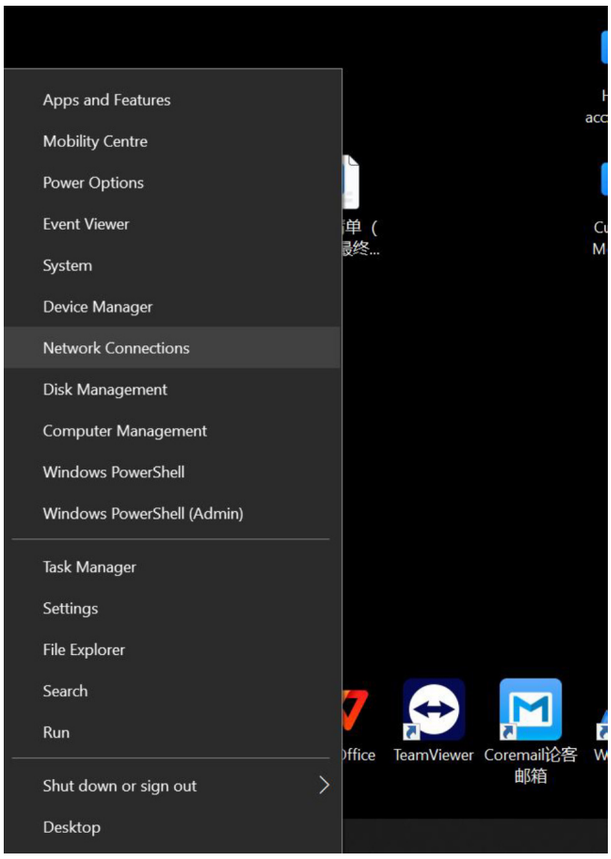
1. Power on 0-870-58 Individually, **do not** connect 0-870-58 to X1N DVR. Connect 0-870-58 (6-PIN aviation port) with PC (network port).



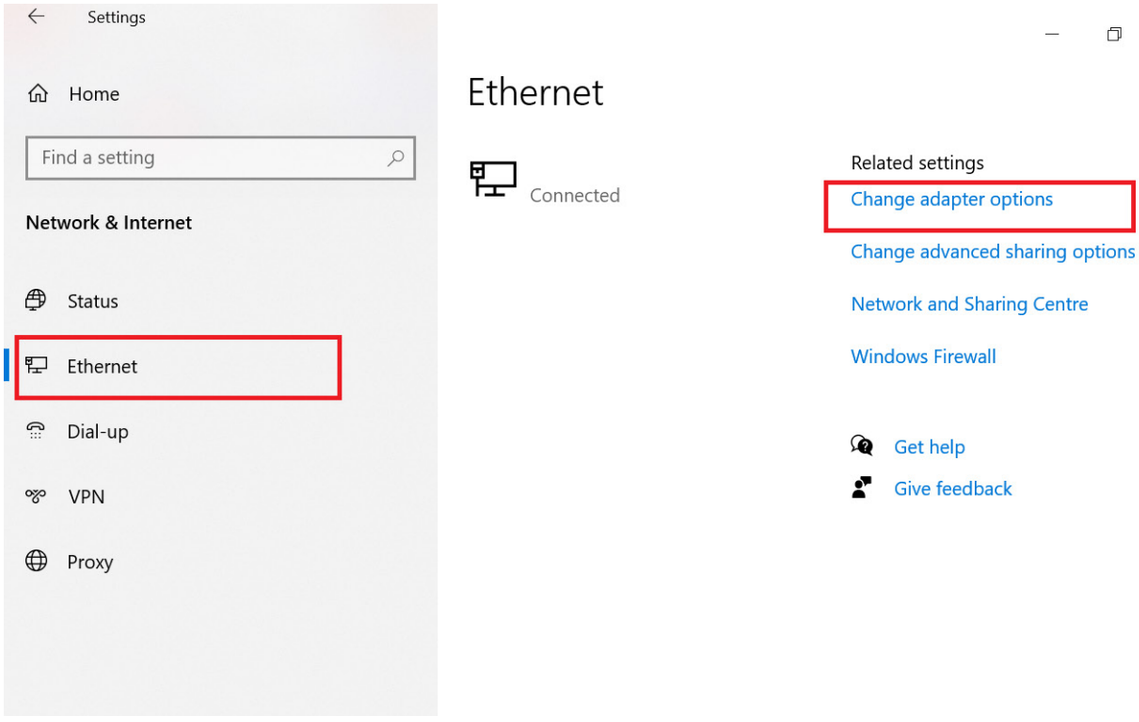
2. Open SearchDevice tool, click Refresh button, sometimes you may need to restart the computer, the IP address for the 0-870-58 will show. SearchDevice Tool Link this is the 0-870-58, IP address and Subnet Mask and default Gate.



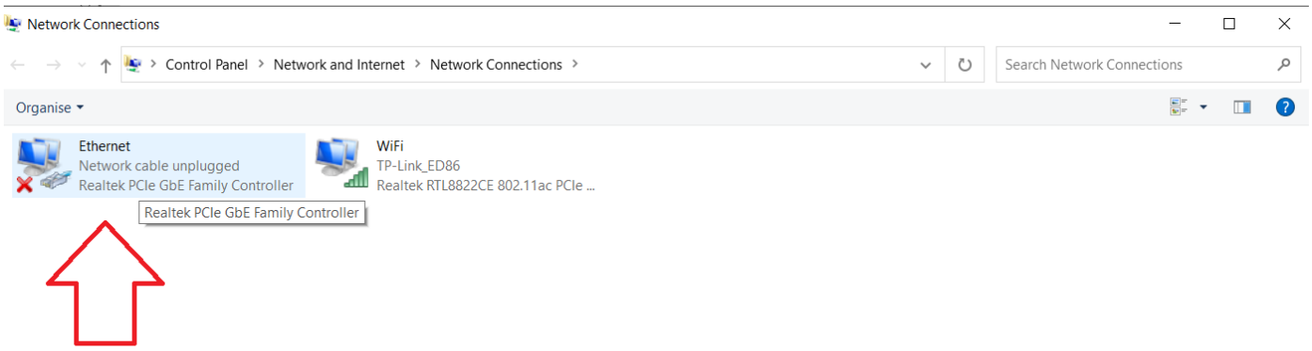
3. Enter PC---Network Connections---Ethernet---Change adapter options.



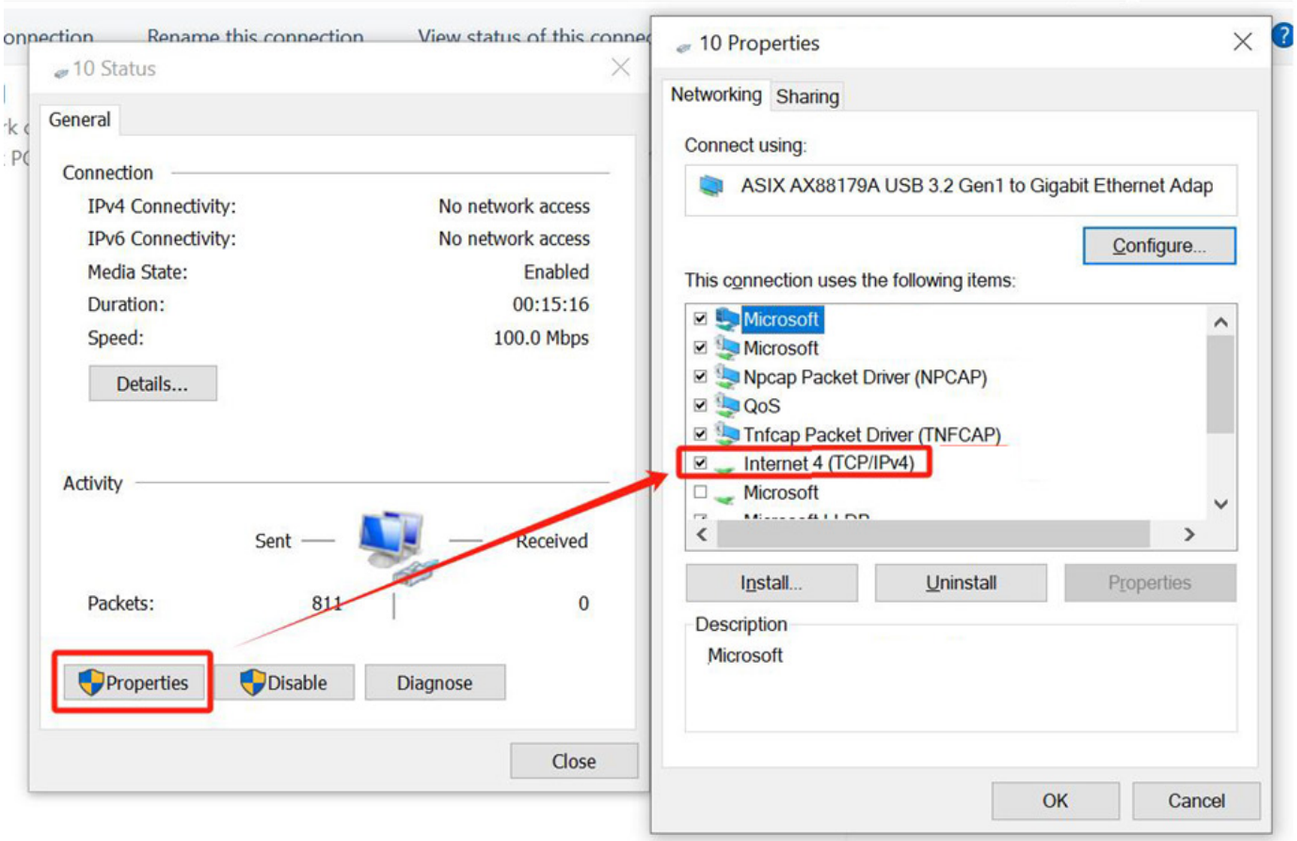
4. Adjust the Settings for the Network port.



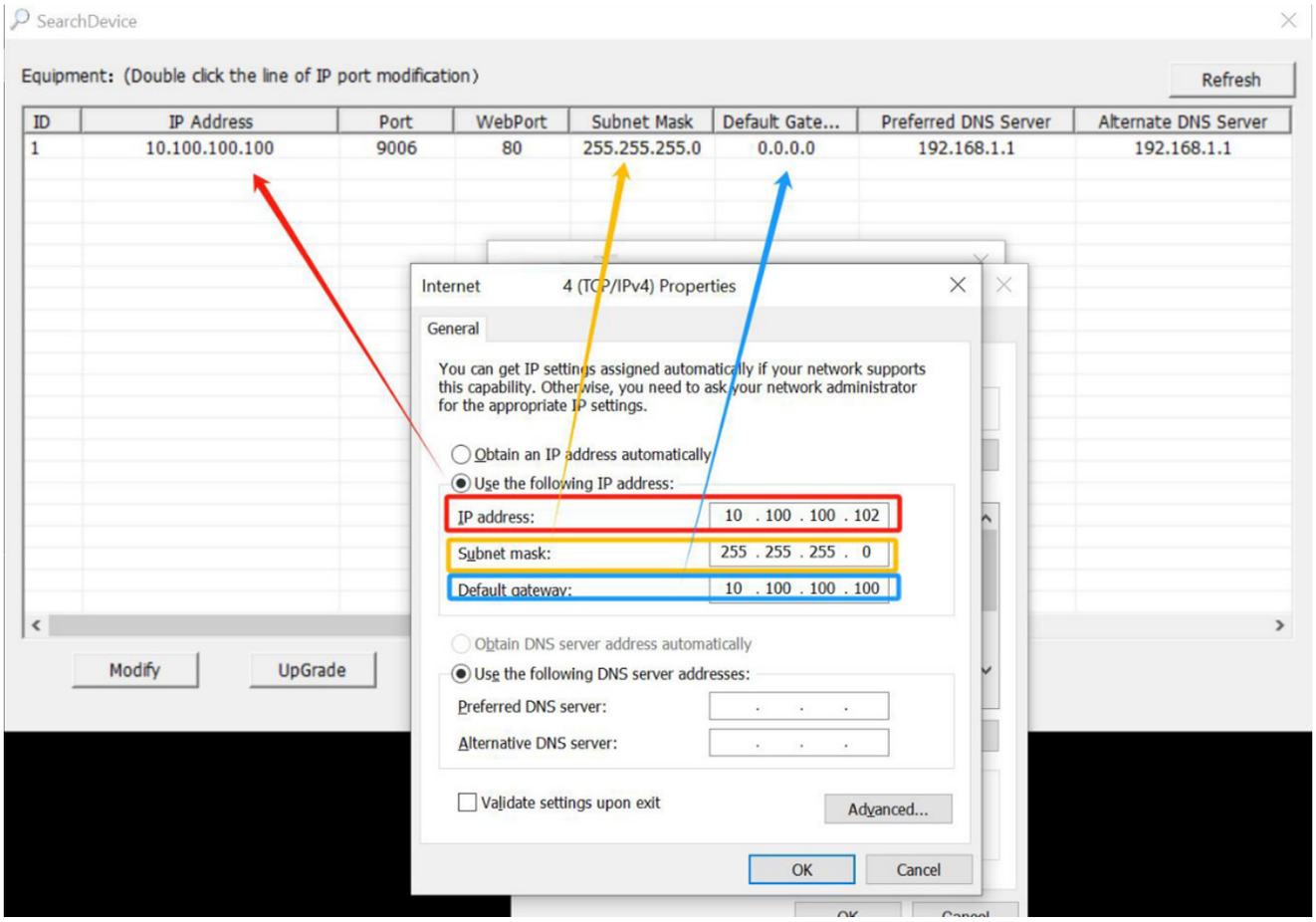
5. Click the 0-870-58 corresponding network.



6. Modify the networking settings.



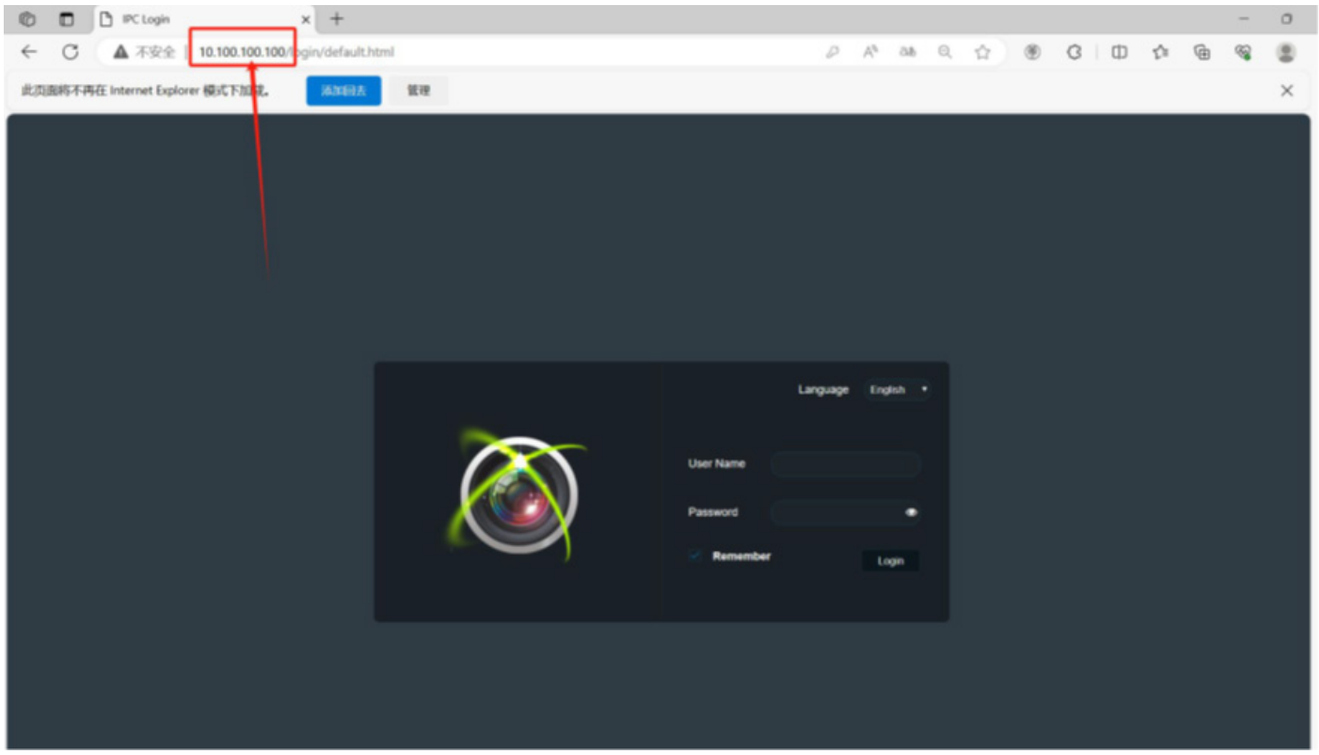
7. Change the IP address on the pop-up to the IP address shown in the device search and change the last 2 digits to something different from the original IP address (example below shows .100 changed to .102), Subnet mask to the Subnet mask shown on the device search and the Default gateway to the original IP address, as below image.



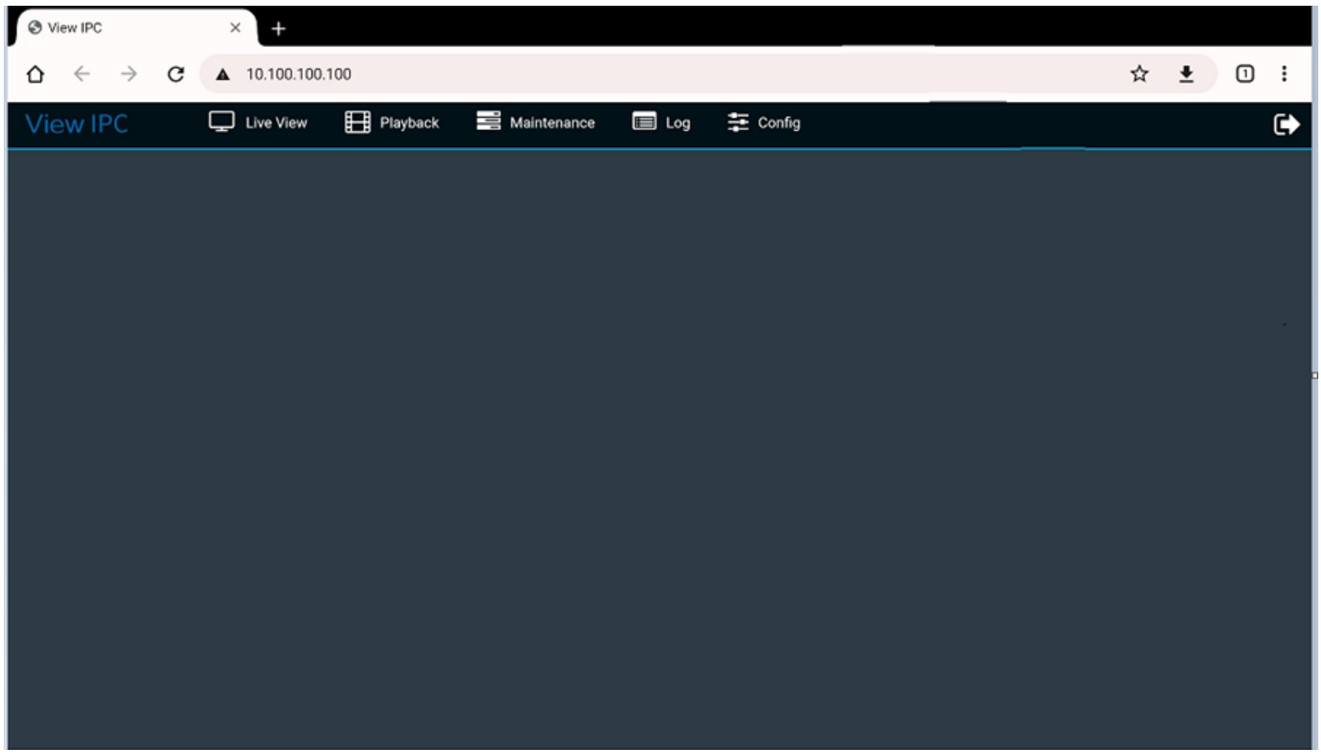
Once changed Remember to click OK button to save settings.

8. Open Browser (works with Microsoft Edge, Google Chrome.) Enter the IP address of the 0-870-58 in the search bar then you will get the IPC Login page.

   User Name: admin Password: none



9. Once Logged in to the 0-870-58 you will see the page below.



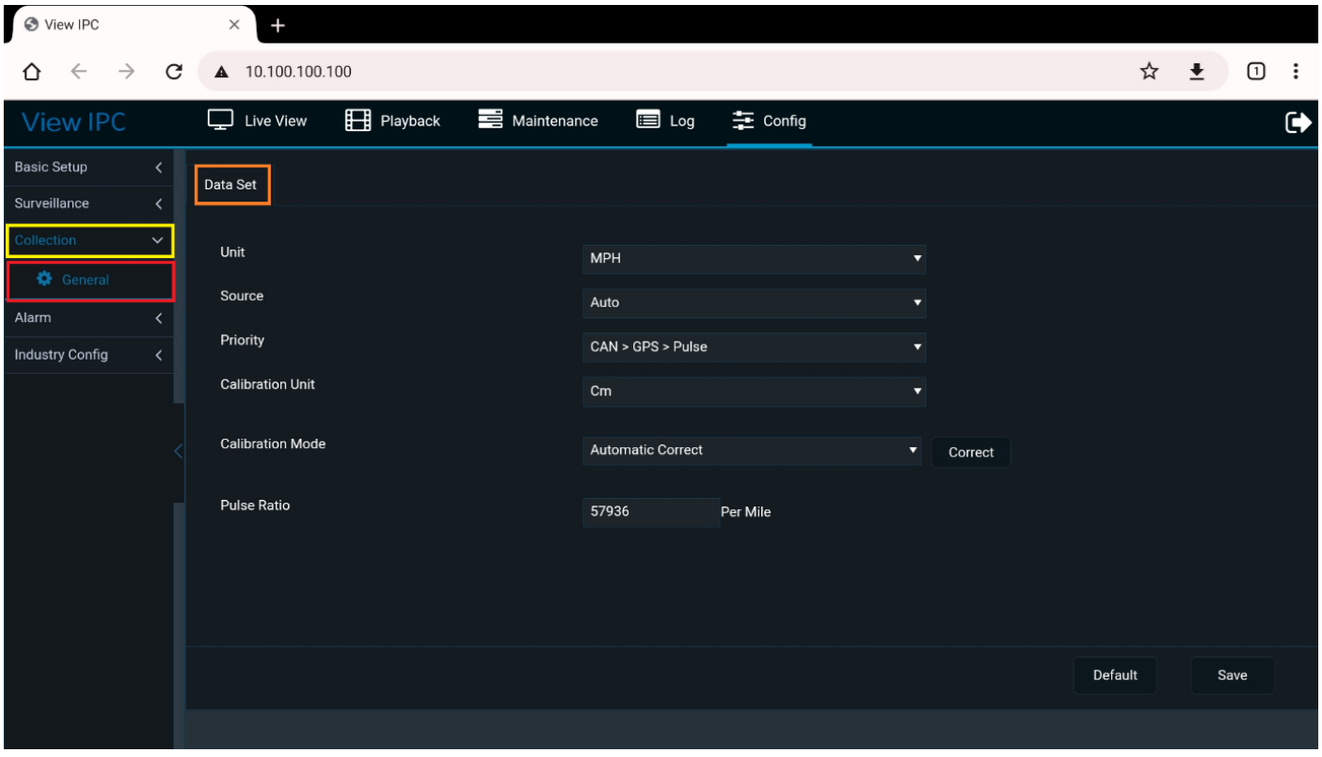
10. To adjust the speed input source settings when using a browser for configuration.
Log in on the browser

From the main page go to Config.

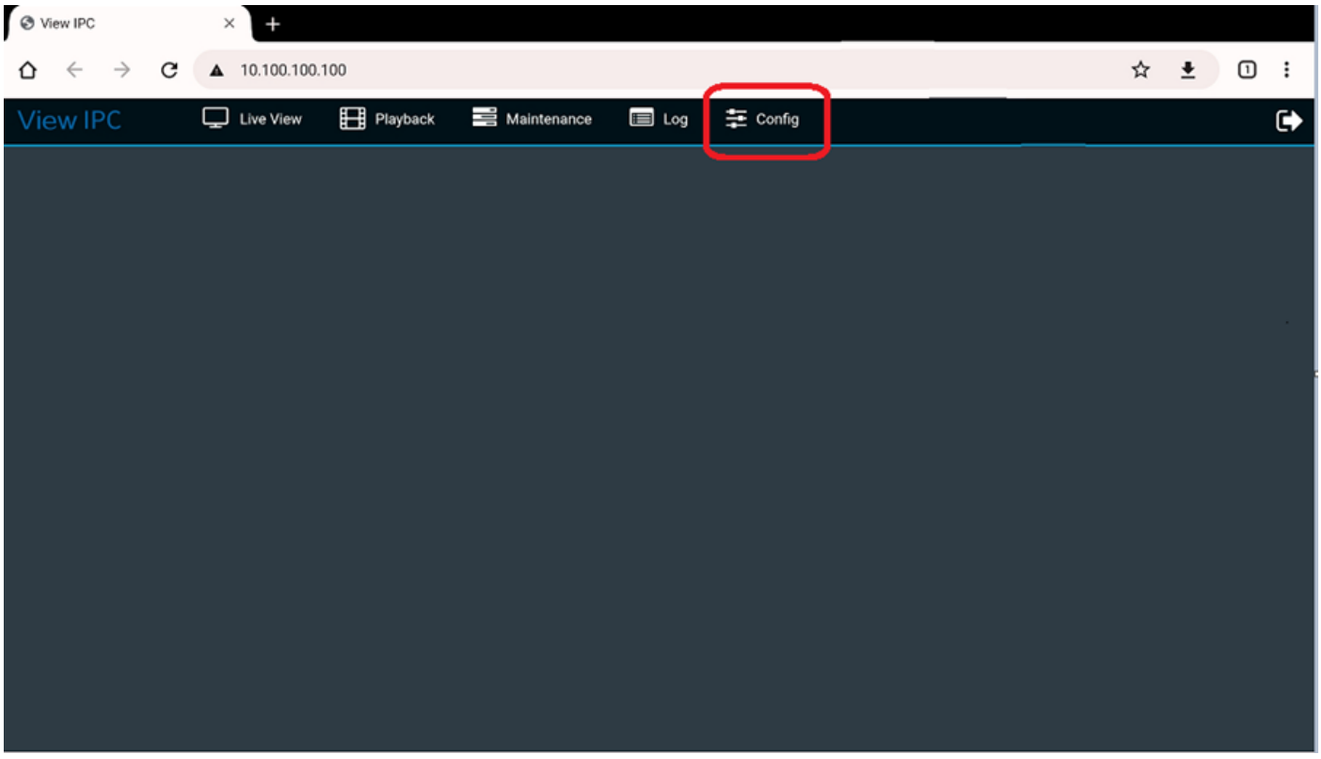
Then on the left menu select Collection
Then select General

Under data set

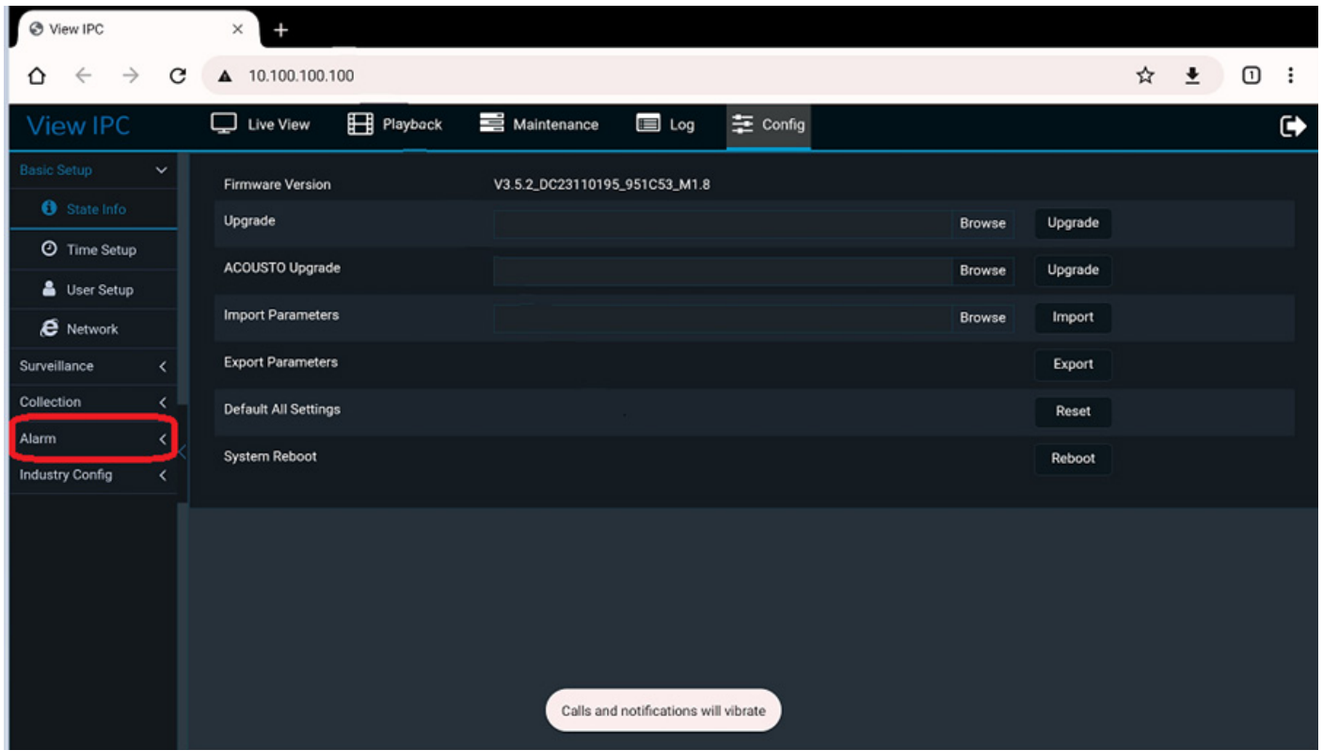
Change to the below settings



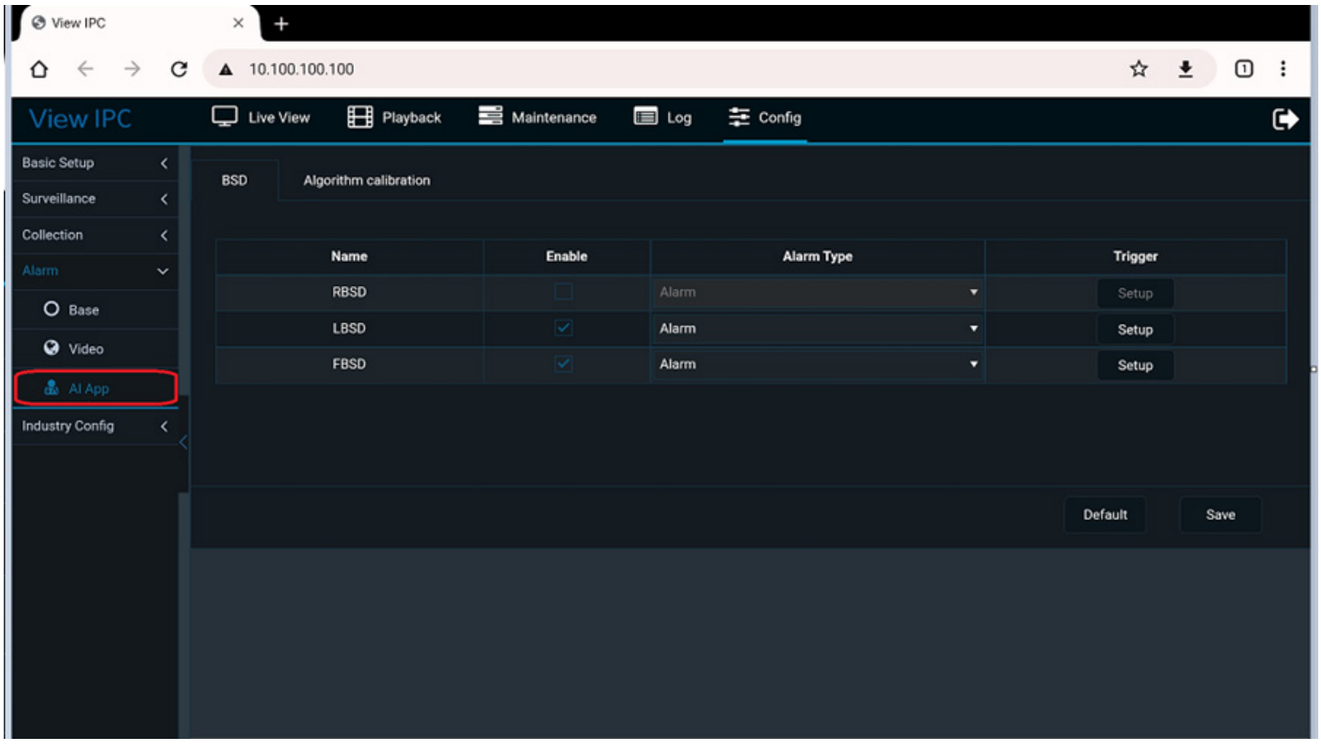
11. To get to the Calibration page Select Config from the top menu.



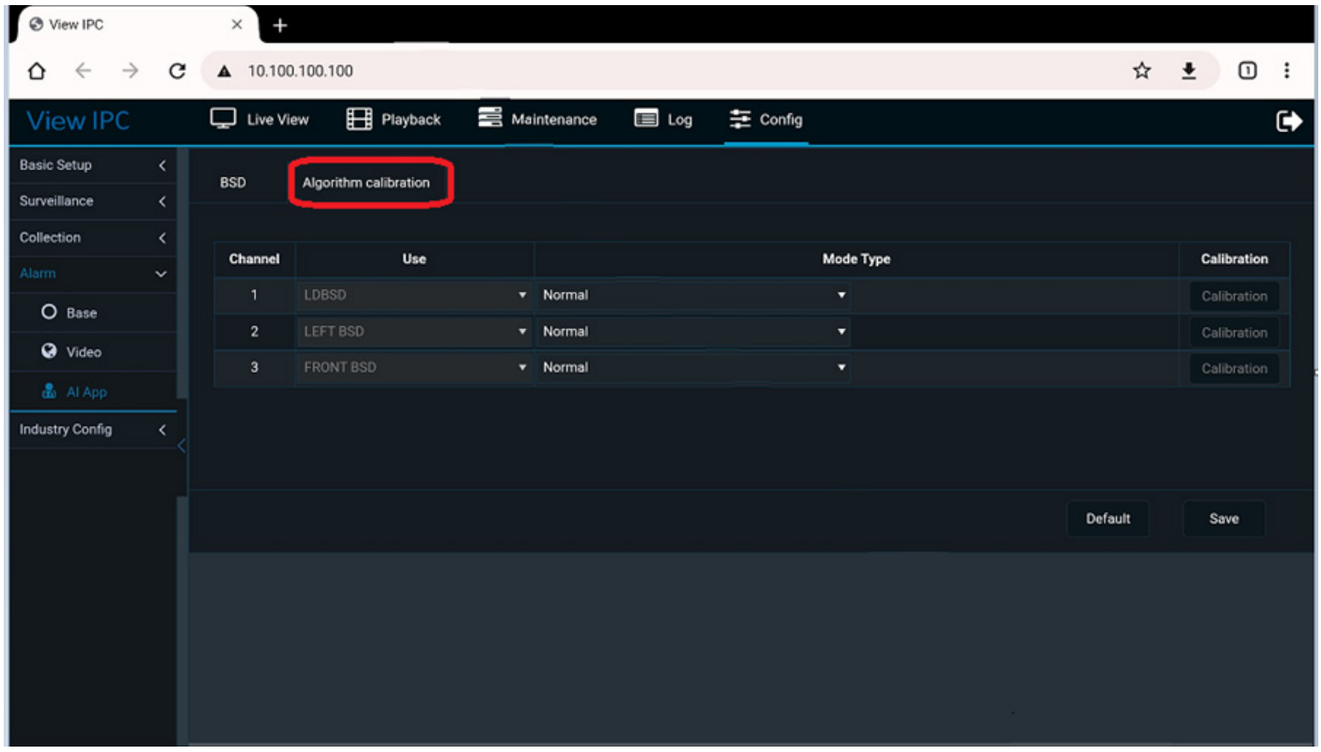
12. Now select the Alarm menu from the left side of the screen.



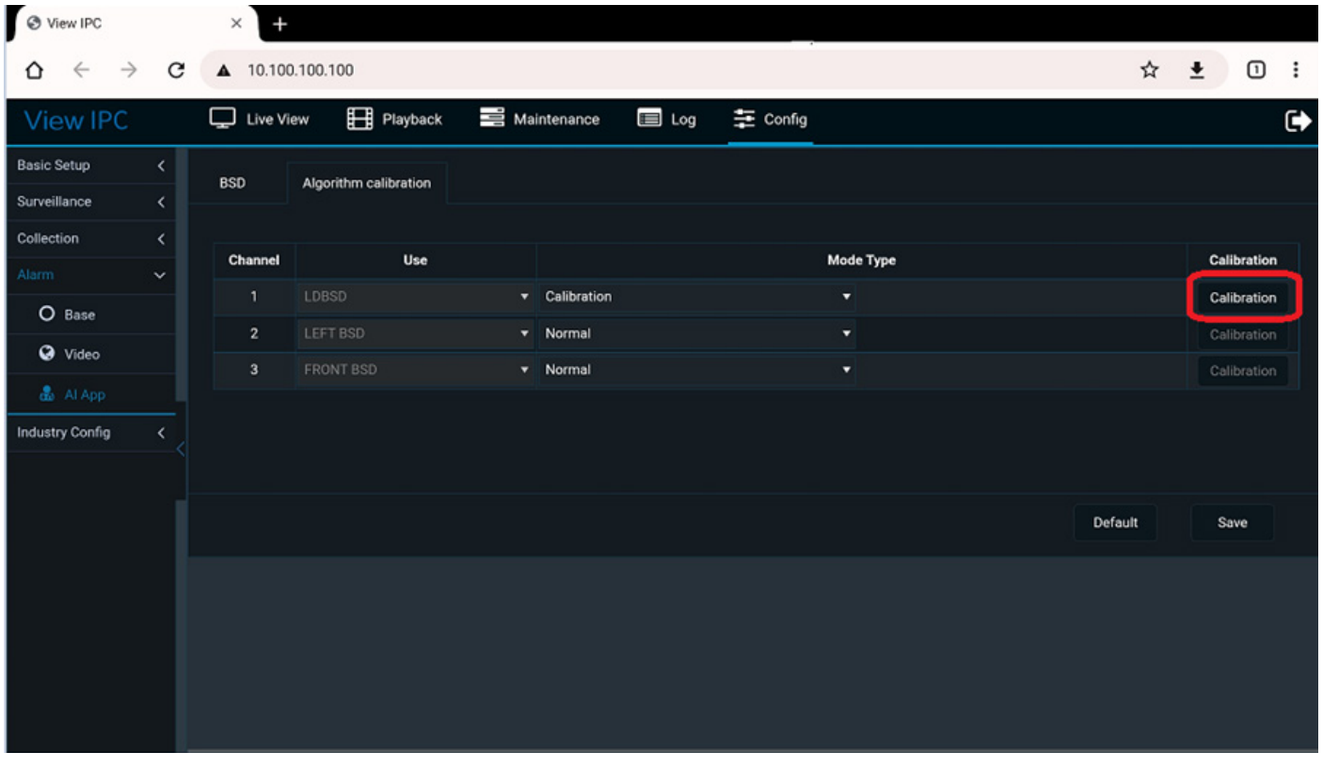
13. Now select the AI App from the Alarm Menu on the Left side of the screen.



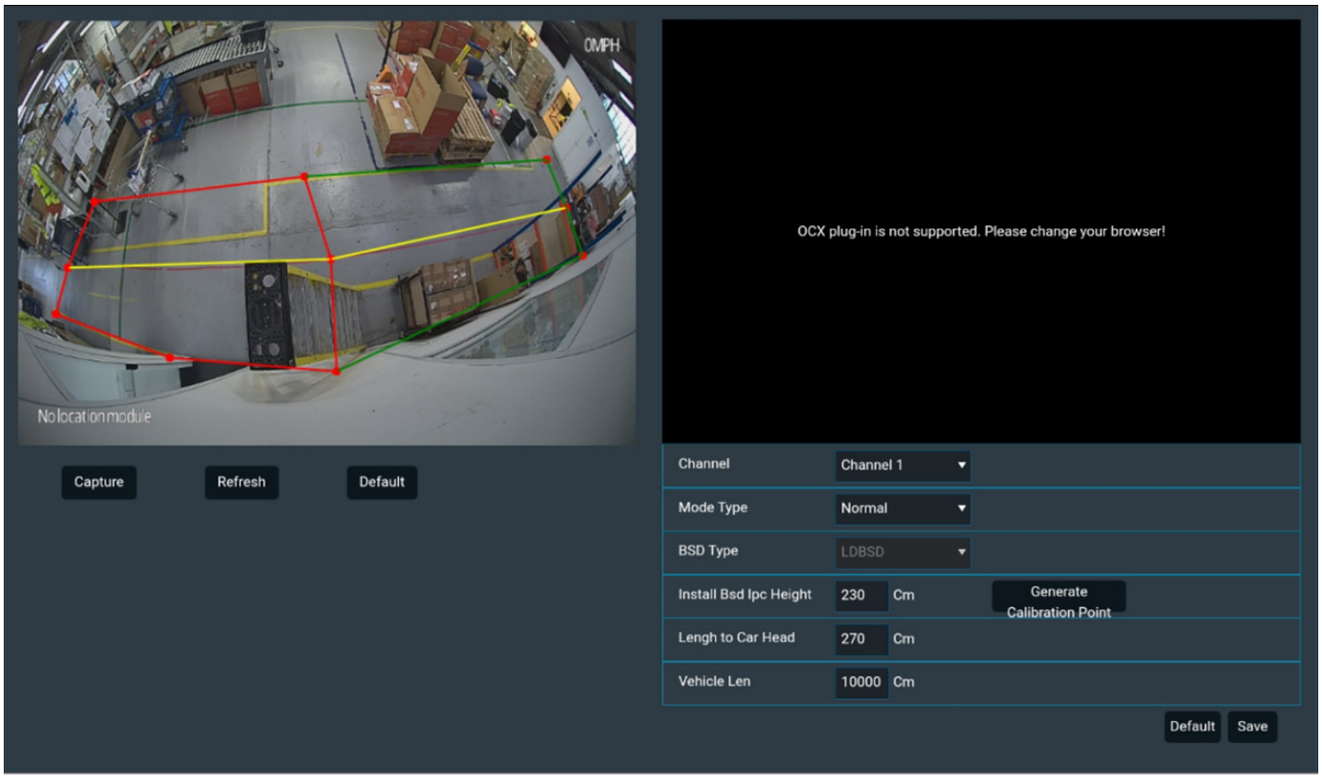
14. Now Select the Algorithm Calibration tab. Now you will see the 3 cameras
Channel 1 - LD BSD (Look Down Blind spot left)
Channel 2 - Left BSD (Left rear View)
Channel 3 - Front BSD (MOIS Camera) You will need to calibrate each camera individually



15. Change mode type to Calibration using the drop-down menu. Then press the calibration button on the right to load the calibration screen.



16. The Calibration Screen will be as below.



15.1.1 For the LD BSD camera change the Channel to channel 1 using the drop-down menu. Enter the camera's height and distance from front of the vehicle and the vehicle length parameters.
Press the capture button on the left side of the screen. This will load the camera image. Now you can select the calibration points by hovering over them with the cursor and moving them to match the calibration points marked out with the cones.

Once this is done press save then close this calibration page and set the Mode type back to Normal.

15.1.2 Now select the LEFT BSD. Change the mode type to Calibration.
Then press the calibration button to load the calibration screen.

For the LEFT BSD camera change the Channel to channel 2 using the drop-down menu. Enter the camera's height and distance from front of the vehicle and the vehicle length parameters.
Press the capture button on the left side of the screen. This will load the camera image. Now you can select the calibration points by hovering over them with the cursor and moving them to match the calibration points marked out with the cones.

Once this is done press save then close this calibration page and set the Mode type back to Normal.

15.1.3 Now Select Front BSD (MOIS Camera). Change the mode type to Calibration.
Then press the calibration button to load the calibration screen.

For the Front BSD camera change the Channel to channel 3 using the drop-down menu. Enter the camera's height and distance from front of the vehicle and the vehicle length parameters.
Press the capture button on the left side of the screen. This will load the camera image. Now you can select the calibration points by hovering over them with the cursor and moving them to match the calibration points marked out with the cones.

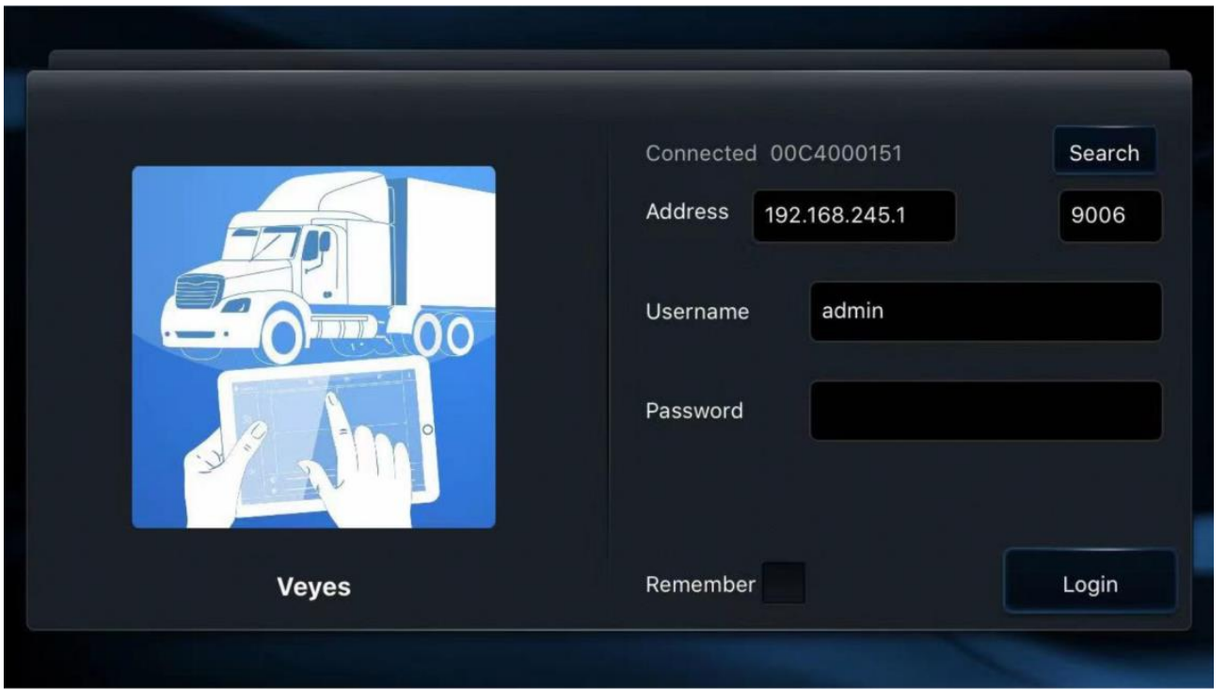
Once this is done press save then close this calibration page and set the Mode type back to Normal.

16. Now the system is calibrated you can close the browser and remove the Network connection lead from the MDVR port.

5.2 Calibration with EasyCheck AP dongle

When use BSIS as a slave IPC of a MDVR, calibration can be performed through the EasyCheck AP dongle:

Have Veyes App installed on Tablet or Smartphone.
Plug the Easycheck into the MDVR USB port.
Start the vehicle and wait for the MDVR to boot up.

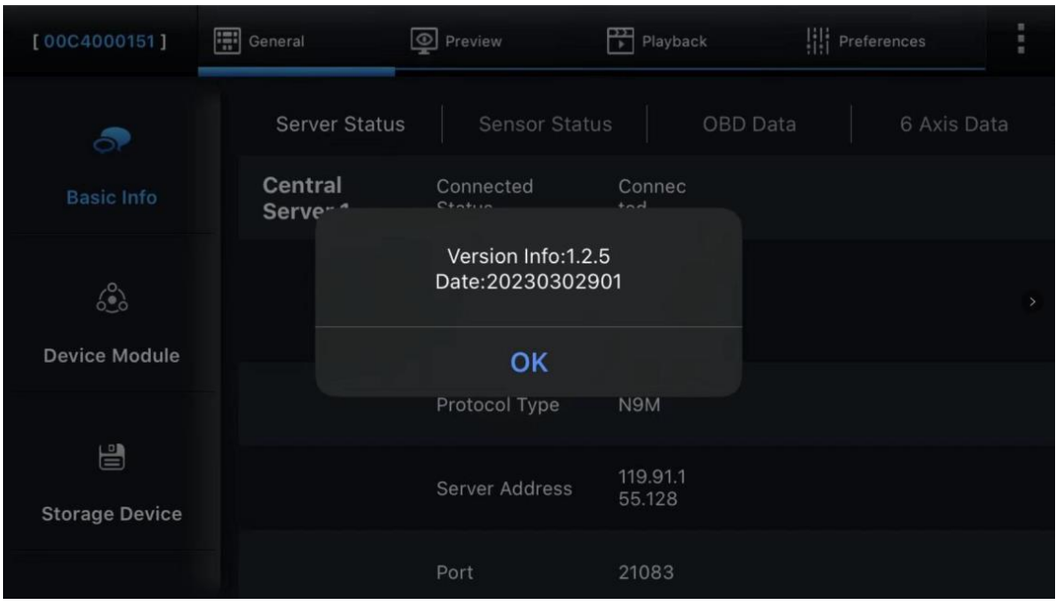


Once the MDVR is powered on, the Veyes app can be run on the mobile phone. Upon first login, the Wi-Fi hotspot name is the MDVR connection number. If the license plate number has been changed, the Wi-Fi hotspot name will change to the license plate number accordingly.

Search for a Wi-Fi hotspot named after the connection number of the device or the license plate number you have entered.

The login screen is displayed. Enter the corresponding username and password, click Login to enter the operating interface. **Default username/password: admin/eagle**

After logging in, enter the operating interface.



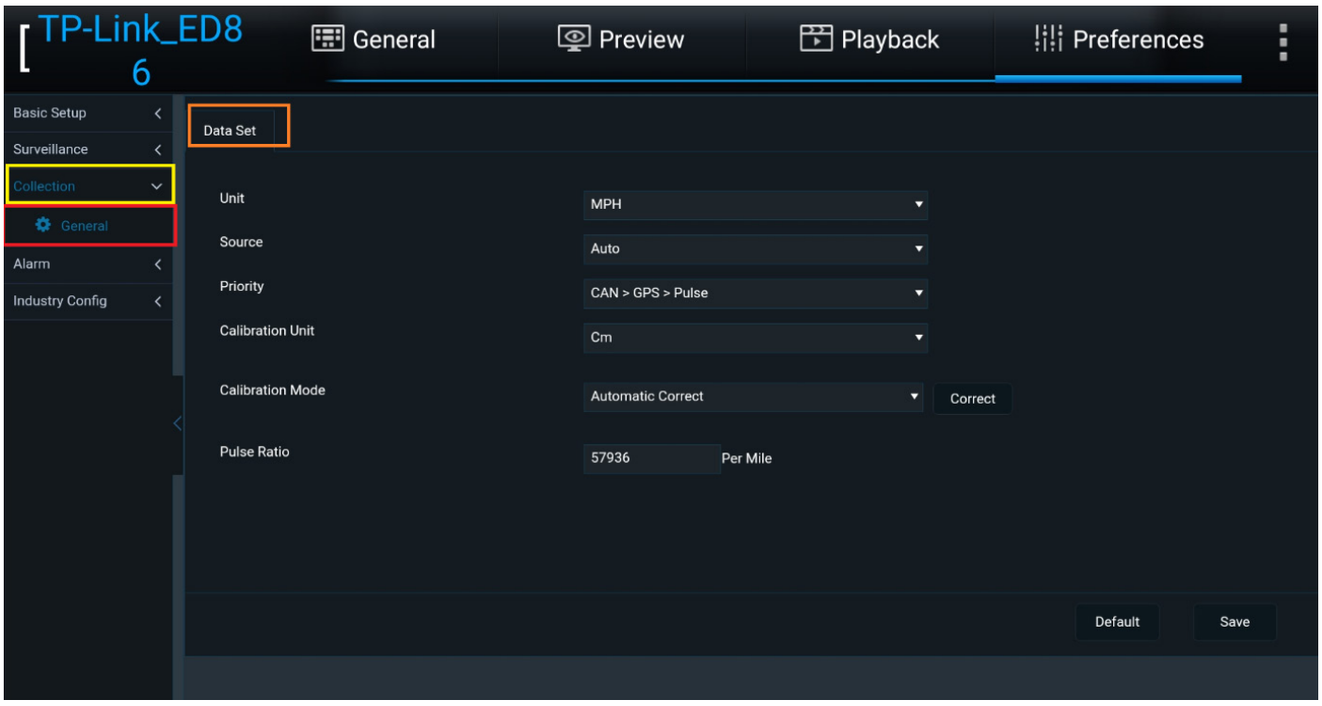
To adjust the speed input source settings when using the Veyes app direct to the camera via the WiFi link for configuration.

Log into Veyes

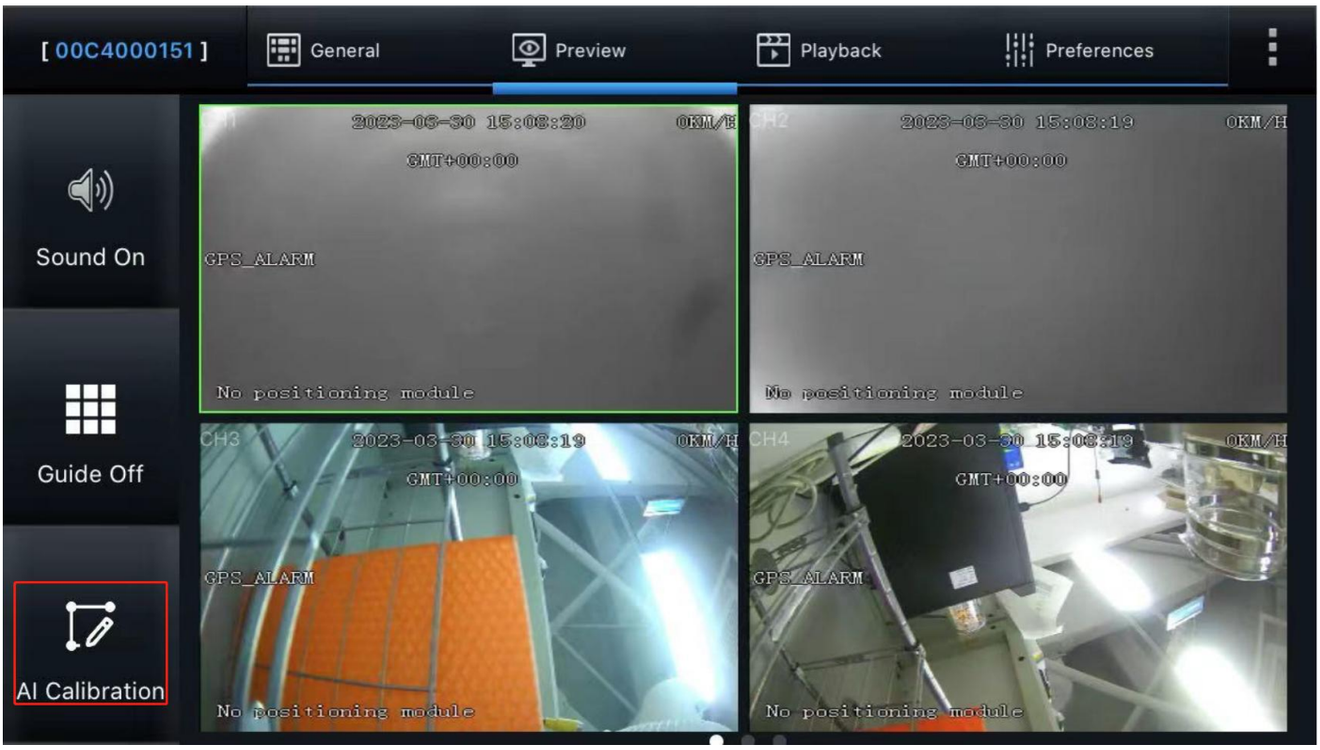
Then select Preferences

Then on the left menu select Collection
Then select General

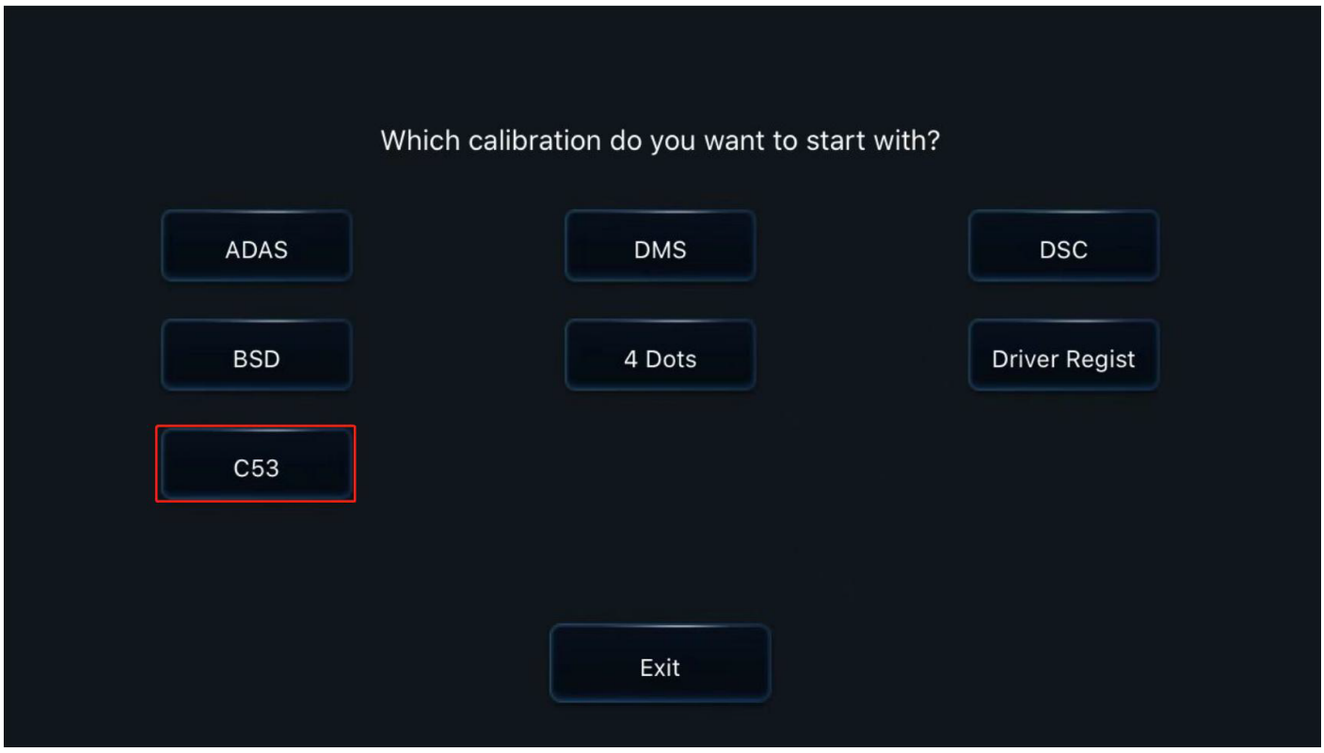
Change the data set to the below settings



In the preview interface, enter the **AI Calibration** function:



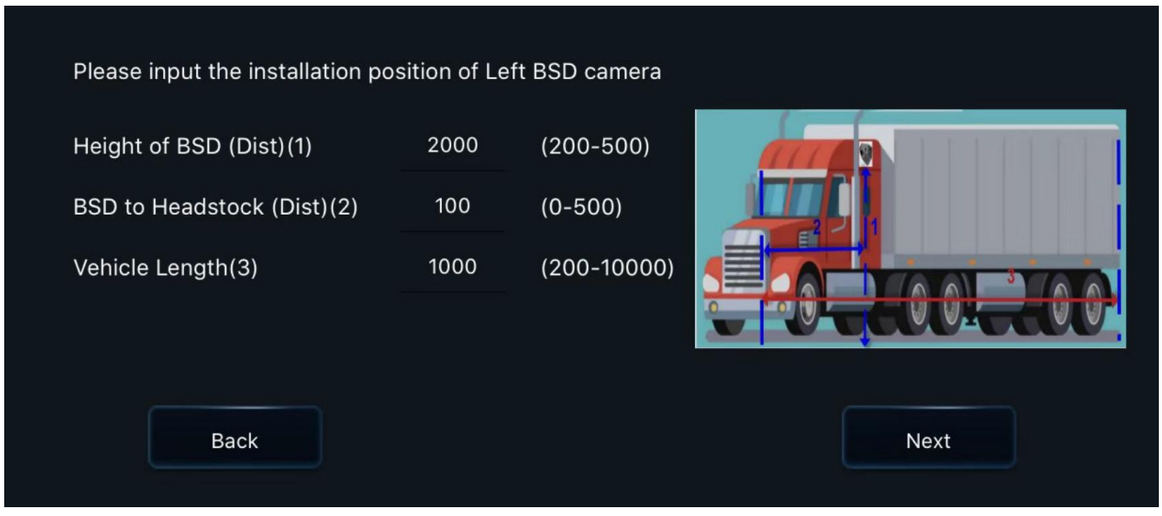
Select the **C53** calibration icon to start the BSIS calibration.



Select the specified calibration position to calibrate the specified camera. As shown in the figure below:

Left BSD represents the left side-mounted camera, corresponding to the rearview long-focus lens calibration of BSIS camera installed on the left side.
Left Overlook view BSD represents the left overview camera, corresponding to the calibration of the BSIS camera wide-angle lens installed on the left side in left-hand traffic.
Front Blind Spot represents the calibration of the MOIS lens, which is the calibration interface for forward calibration.

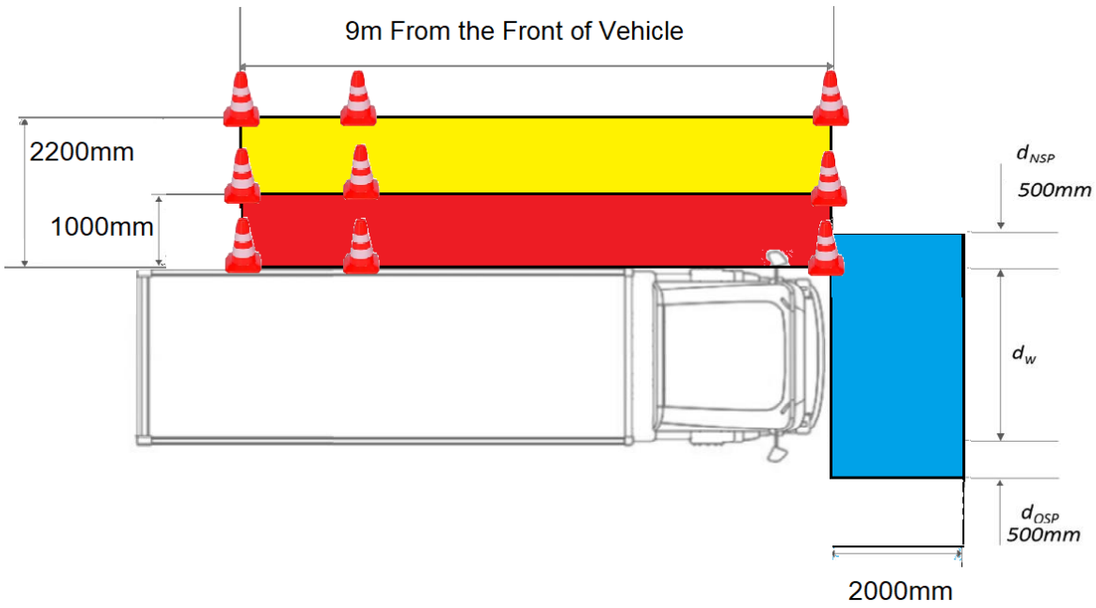
After selecting the overview or side-mounted calibration, you need to input the installation data information of the device in the interface, and the data unit can be switched in the ADAS calibration interface. The input data includes the installation height, the distance from the installation position to the frontmost position of the vehicle, and the vehicle length.



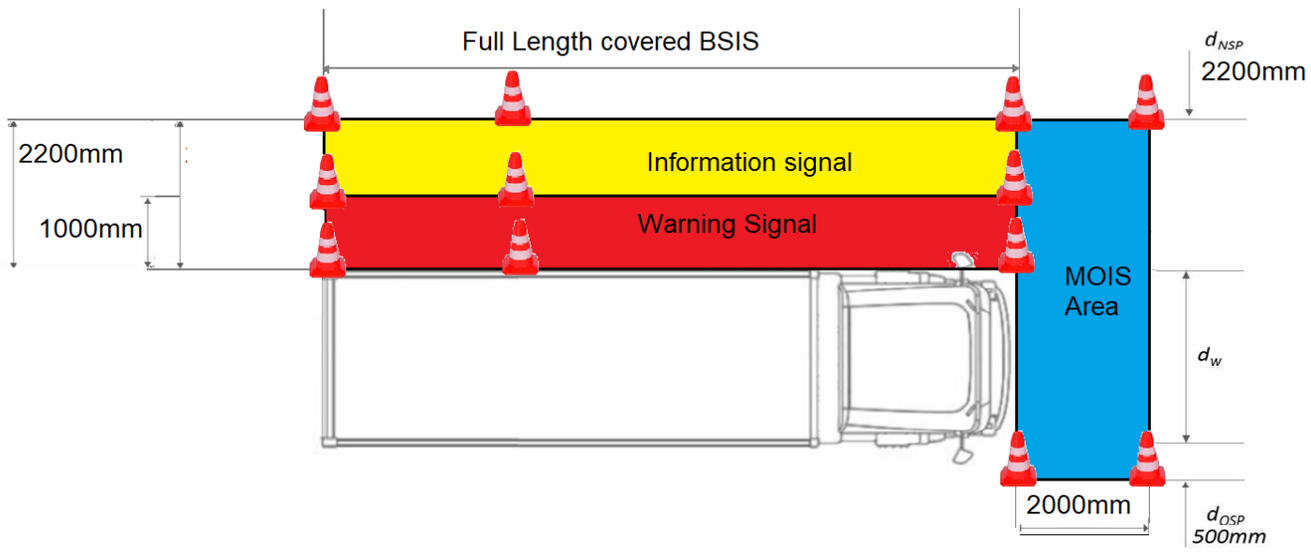
After the input is completed, enter the calibration interface

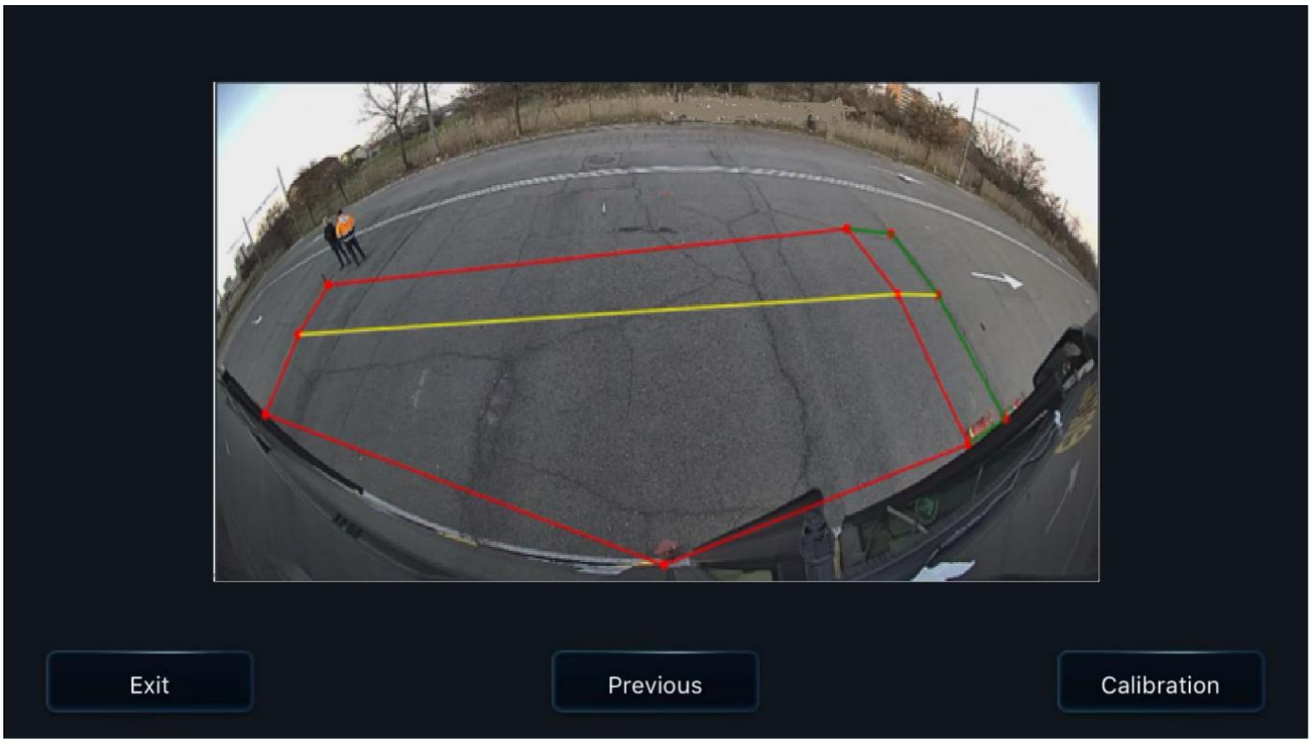
The below shows the minimum calibration size to conform to the TfL PSS requirements and also the Durite recommended calibration size.

TfL coverage area requirement:

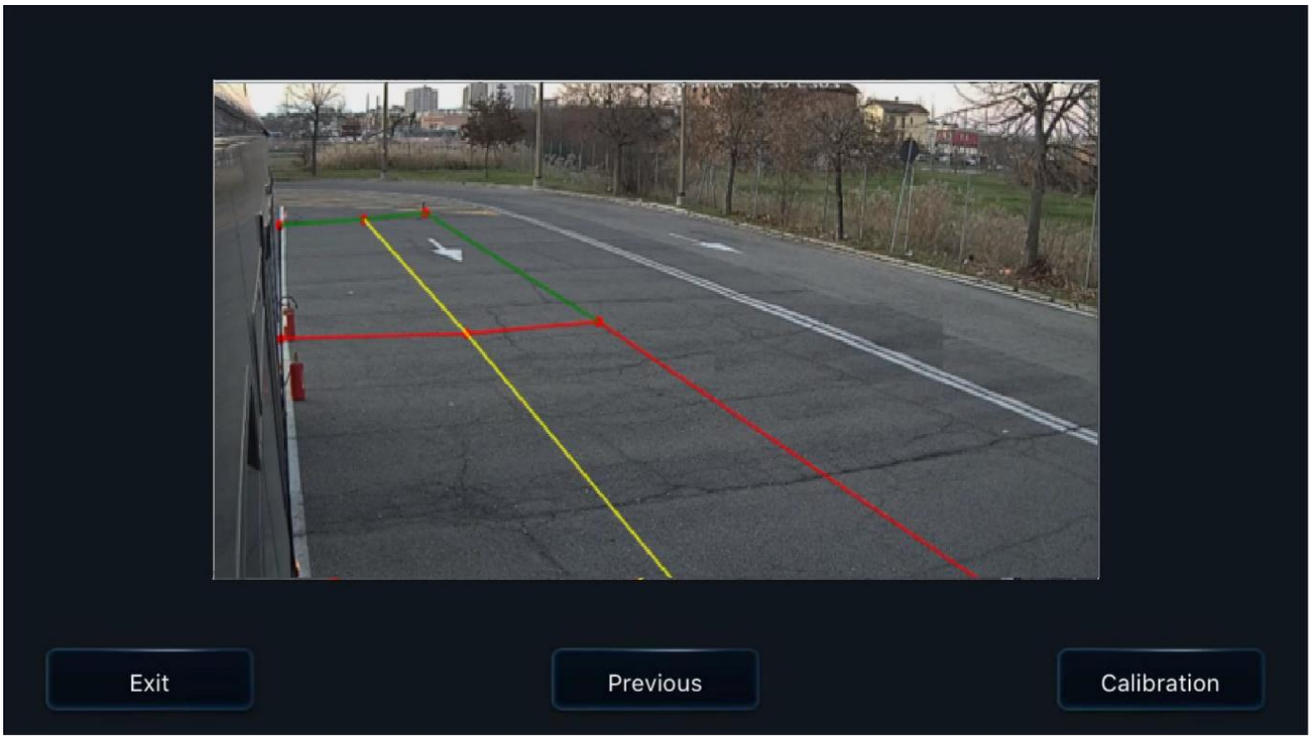


Durite PSS recommendations from live testing:





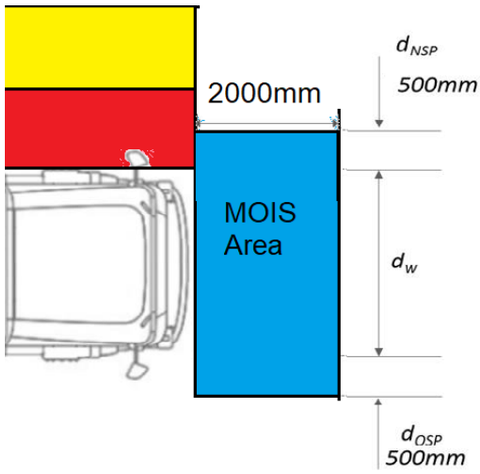
In the calibration interface, drag all the points of the calibration box with your hand and align them one by one with the traffic cones on the ground.



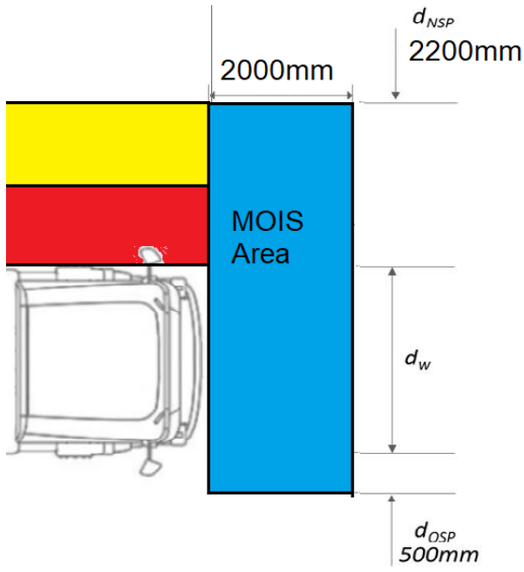
The above two calibration situations are the calibration of the BSIS lens when it is installed on the actual vehicle.

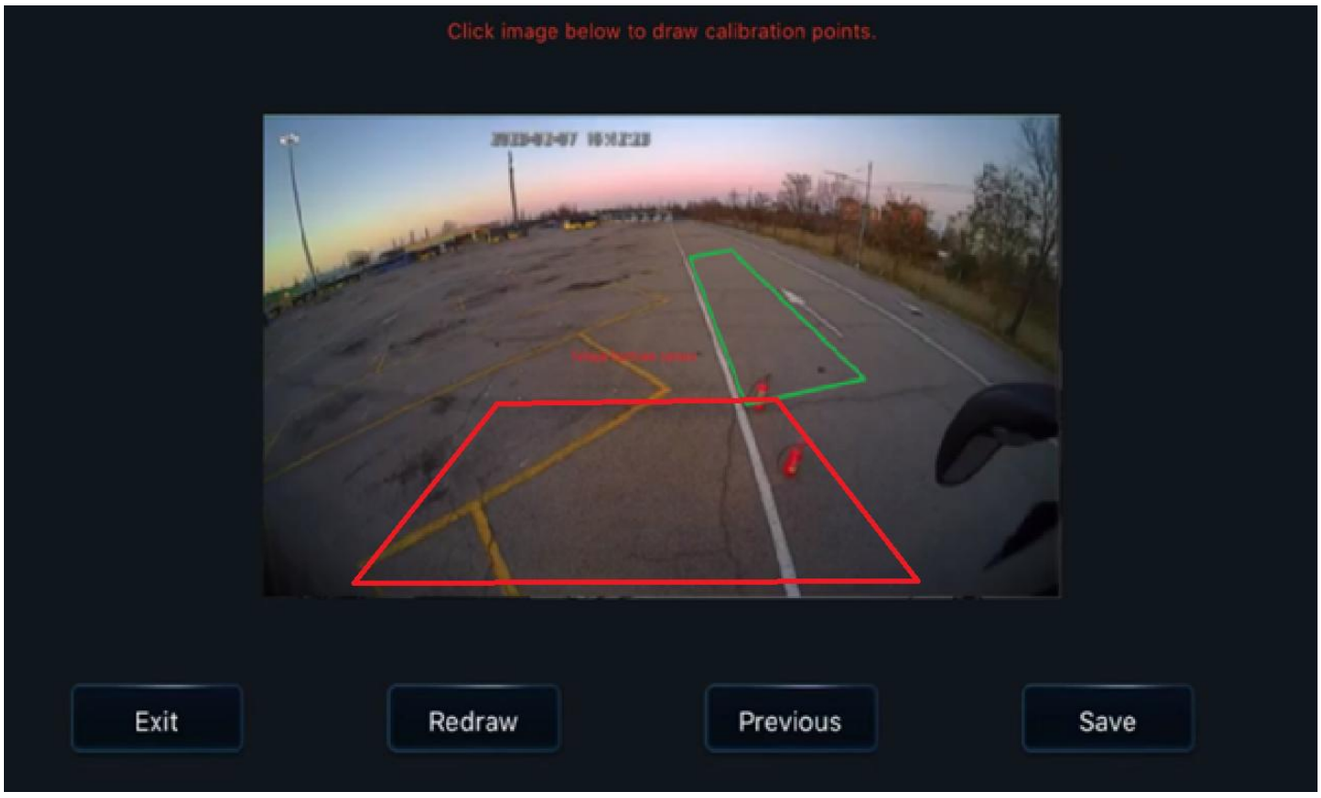
The below shows the minimum MOIS calibration size to conform to the TfL PSS requirements and also the Durite recommended calibration size.

TfL PSS requirements:



Durite recommended calibration size:



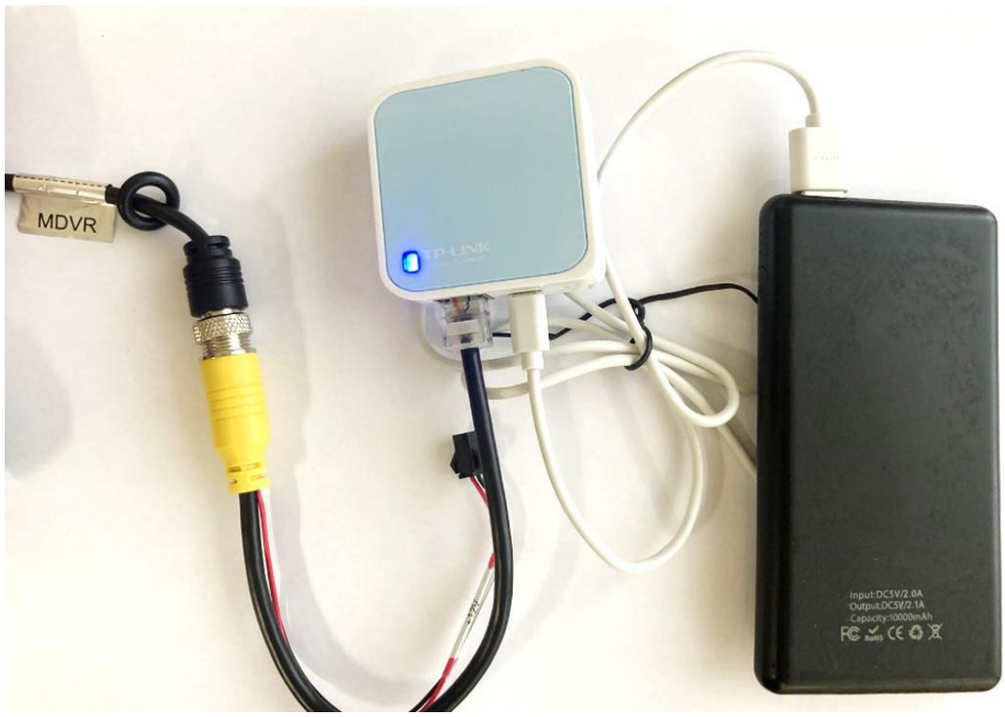


In this calibration interface, click on the four points to select the calibration interval, and click Save to end the calibration.

5.3 Calibration with Veyes APP+ Wireless Router

When the BSIS is used as a stand-alone system, the user also could connect an external wireless router as an access point to the ethernet port of the BSIS, building a LAN network from BSIS to cell phone. Download the Veyes APP from Google play or App store, then use the Veyes app to perform the calibration of the system. The procedure of operation is below.

5.3.1 Connect BSIS to external wireless router

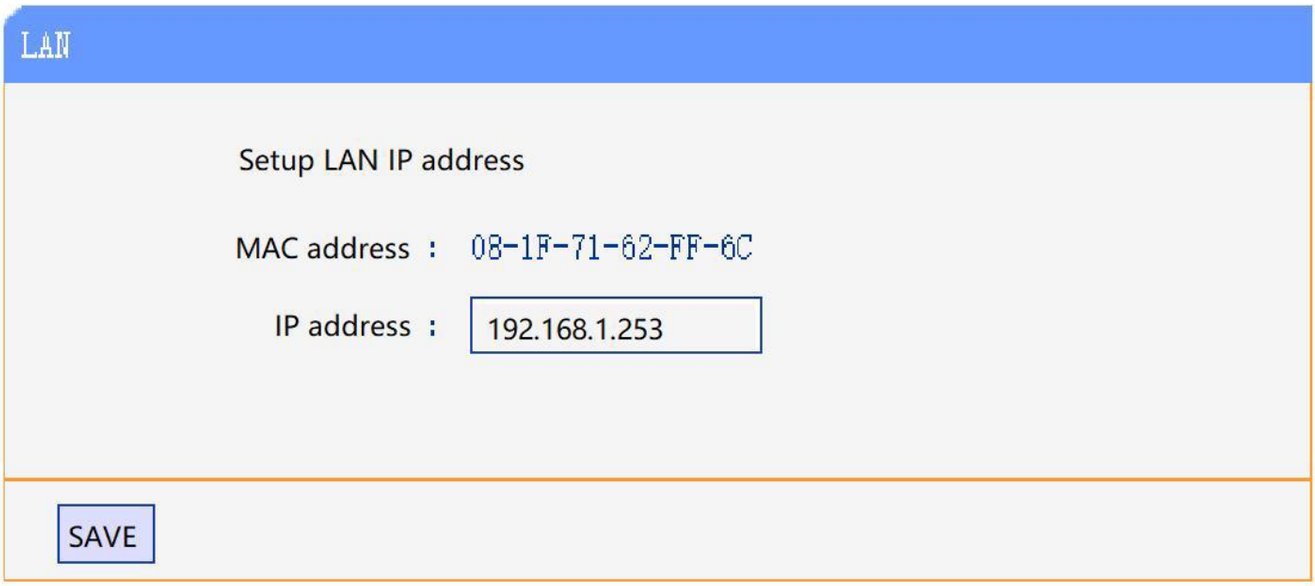


The picture above shows the connection method for connecting external router and BSIS. The wireless router can be sourced locally, powered by the vehicle USB interface or a portable battery power bank. If the router is from a manufacture like TP-Link, a 10000MA power bank can power the router for more than 8 hours.

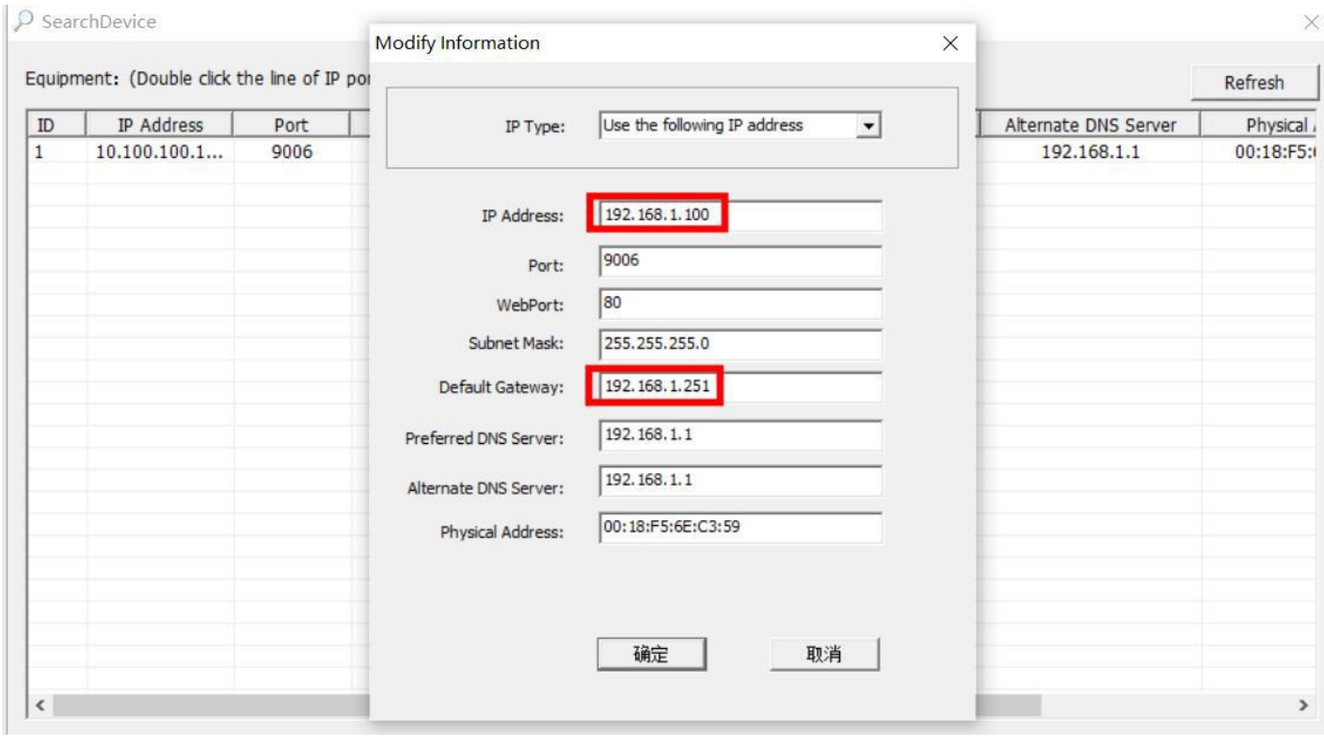
The other end of the 6pin network port is directly connected to the "MDVR" tag cable of the BSIS to build connectivity.

5.3.2 Adjust the IP address of the router to the same IP range of BSIS device

To build the LAN network connectivity, the user will need to set the IP address of BSIS and router in same network segment (the former 3 sections are all same figures, the end section is same with first figure). By default, the single BSIS shipped from Durite Limited is set with default IP address 192.168.1.100. The user only needs to log in to the wireless router backend, set the router's IP in the LAN port setting interface to192.168.1.XX (X could be among 0-9) and save it, then you can log in to the BSIS system interface through Veyes APP. The following shows the router IP setting interface.

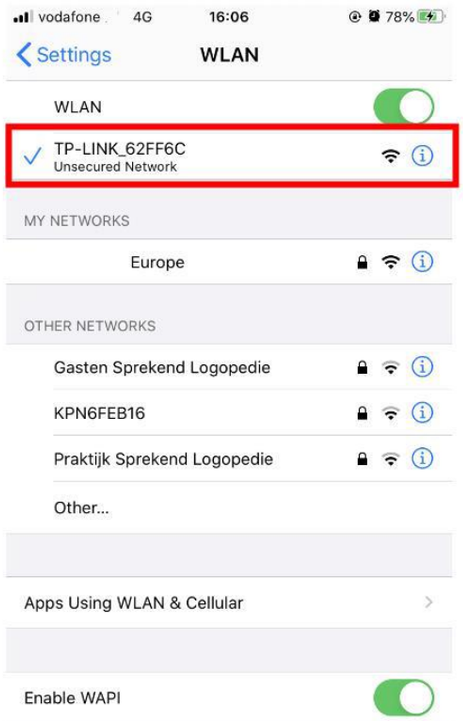


Instead, if the BSIS device has been connected to a Durite MDVR, the IP address of the BSIS will be changed to 10.100.100.100 by the MDVR. In this case, user could change the router IP to 10.100.100.1XX, or change the BSIS IP to match the original IP of router.
User could use a computer IP search tool (turn to Durite technical team to get this software tool) to check the IP of BSIS, and modify the end part of IP address to the same range as the router's. It is recommended to change it to 192.168.1.XX as well.

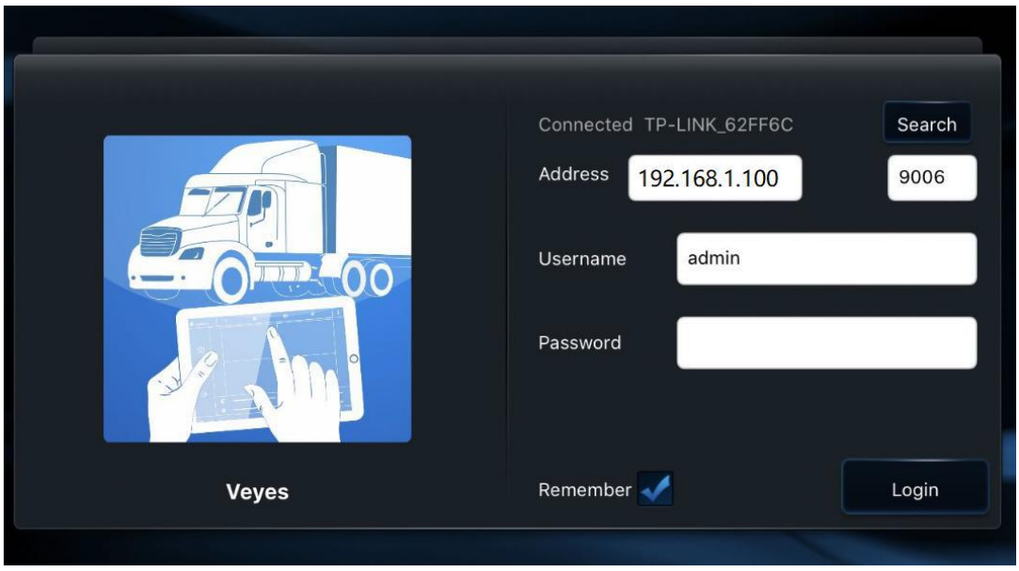


5.3.2 Log in interface with Veyes APP

After the IP setup is completed, use your mobile phone or tablet to connect to the wireless router, download the Veyes App, enter the BSIS IP address, account, and password in the login interface, then log in the system. The detailed operation conditions are as follows:



Username: Admin
No password is required.



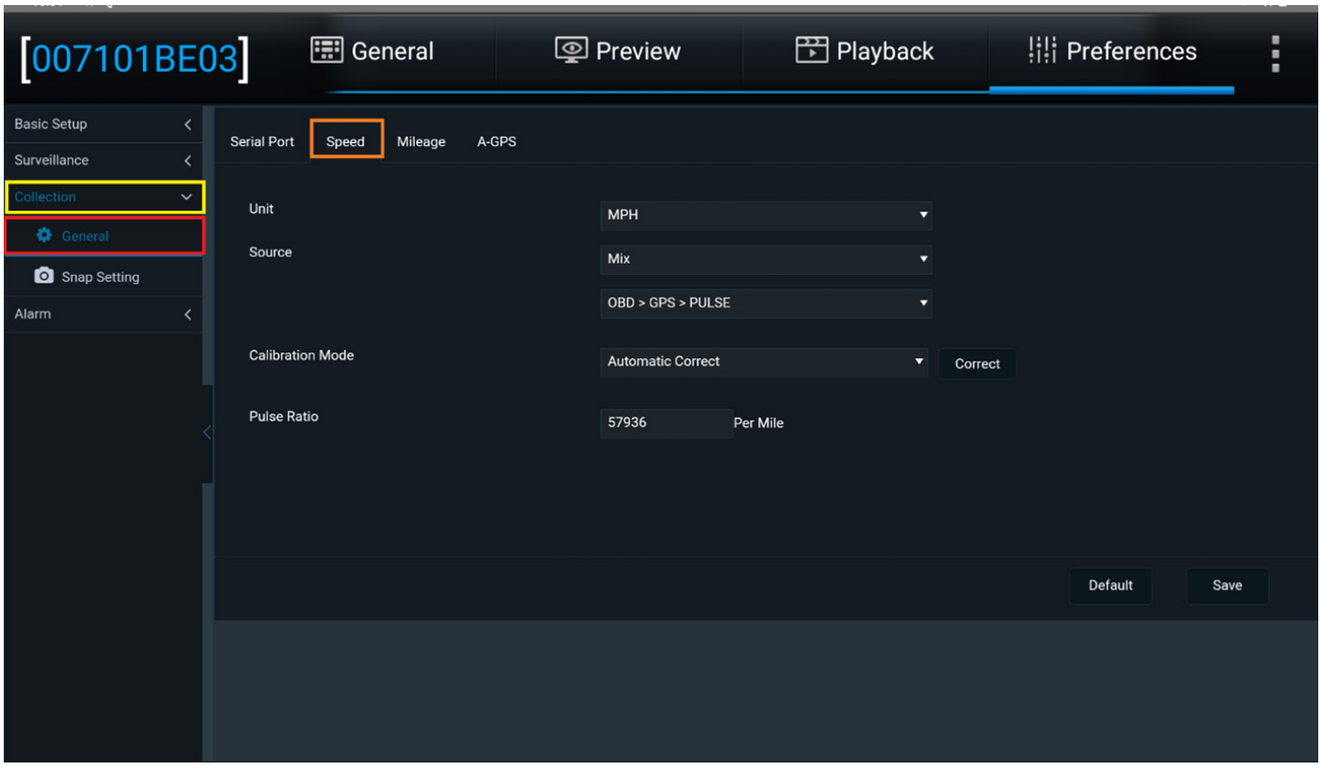
To adjust the speed input source settings when using the Veyes app via a DVR for configuration.

Log into Veyes

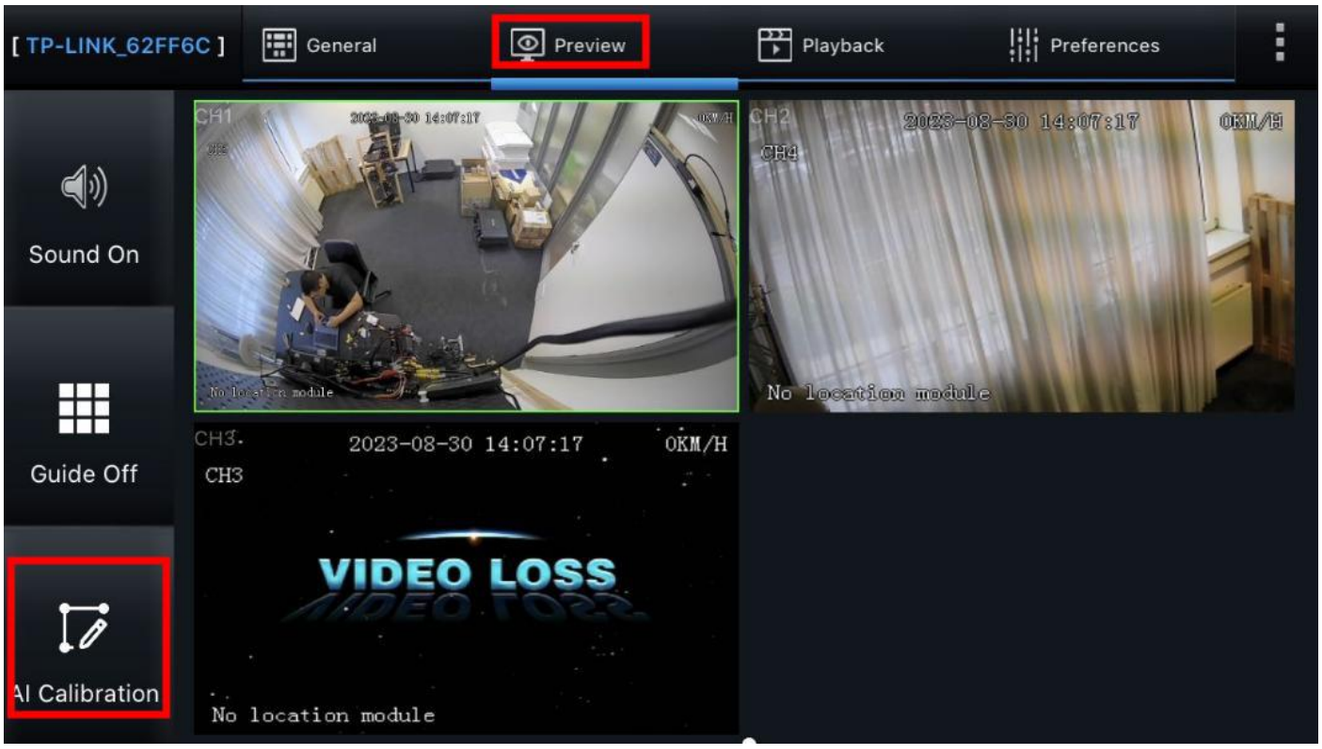
Then select Preferences

Then on the left menu select Collection
Then select General

Change the speed data set to the below settings



Press Save then exit Veyes app.



The left calibration methods are the same as the MDVR combined operation and maintenance calibration scheme. For details, please see Chapter: 5.2

Note: If you choose another brand router, the operation procedure is the same but the default IP will be slightly different.

Every time you cannot log in to system through this IP, please go back to check the IP address of BSIS and router, ensure that the IP address of BSIS and the router are in the same network segment.

6. Installation of Accessories

6.1 Installation of B3 notifier

The B3 in-vehicle audible, and visual notifier is suitable for large/freight vehicles such as N2, N3, M2, and M3. The B3 can be installed on either side of the vehicle's A-pillar, as shown in the figure:

1. Installation position selection:

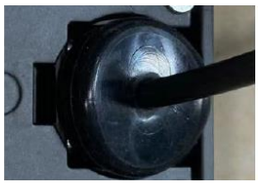
The B3 device is the provider of the information signal and warning signal of the blind spot system. The installation location is generally selected as: right-hand drive vehicles choose the left A pillar, or on the front windshield near the left A-pillar. The installation height is generally slightly higher than the height of the steering wheel by 15-20cm. If the driver is relatively tall, it can also be installed higher, but it should not be higher than the driver's eyes.

2. B3 Installation:

After selecting the installation location, use alcohol cotton or water + towel to clean the installation location. After the installation location is dry, tear off the 3M adhesive protection sticker of the B3 bracket, and stick the device to the installation location. After pressing for 5 seconds, it should be fixed. Install the B3 on the bracket and route the wires to complete the installation of the B3.

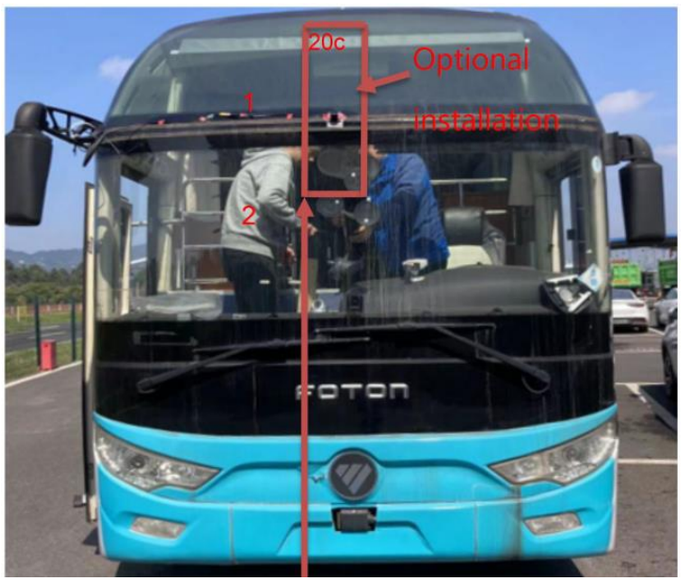
6.2 MOIS Camera Installation

1. MOIS Component Introduction:

Name	Application	Picture
MOIS Camera	Fish eye camera for vehicle front-end monitoring	
± 15° Mounting Pad	Adjust the camera angle	
Waterproof Sealer	The rubber ring used to seal the opening position of the car body	

2. Selecting requirement of installation position for MOIS:

The installation position of the MOIS camera is on the top of the front of the vehicle, on the centre line of the vehicle. If the actual installation position is difficult to drill, the camera can be moved to the left or right appropriately, and the maximum moving distance is 10cm.



Installation height:
For large trucks, school buses and other vehicles with a height of more than 2.8m, the actual installation height can be 2m-3m;
For small and medium-sized vehicles, where the actual height of the vehicle is about 2.2m, the installation can be the top of the vehicle.
If the vehicle is lower than 1.8m, the lower the installation position, the smaller the coverage of the blind spot. It is not recommended to be lower than 1.5m as the coverage of the blind spot may not meet requirements.

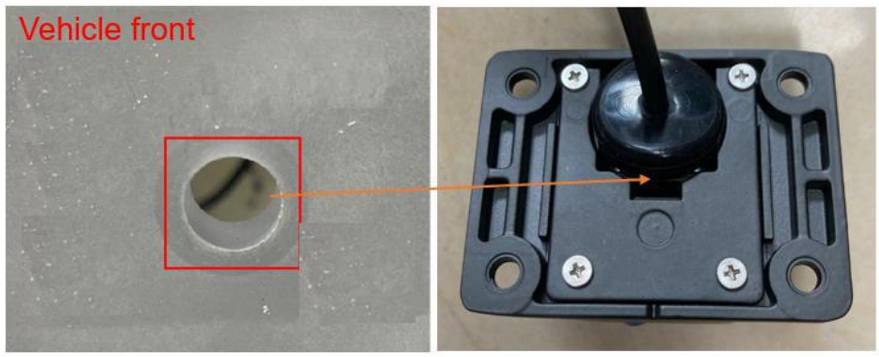
3. Lens Angle Calibration:

After selecting the installation point, first simply place the lens on the installation location, and check the video status through the operation and Veyes APP/IE Make sure that the installation position of the camera can cover all the blind spots in front of the vehicle.

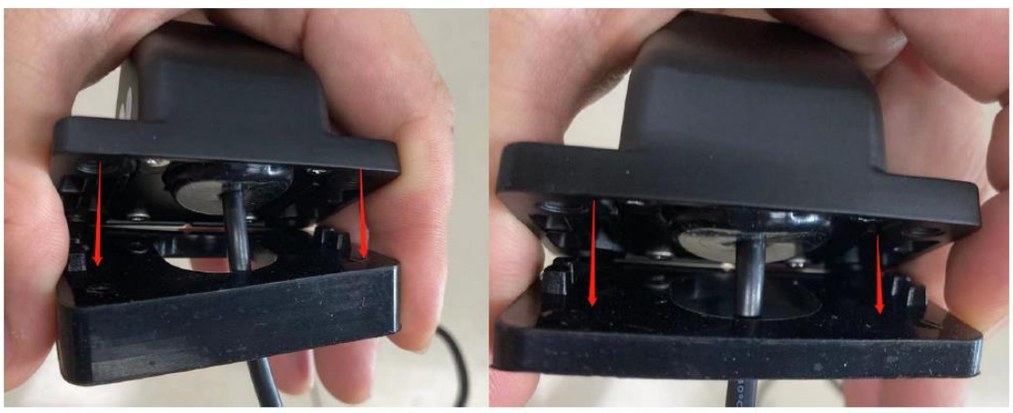
Make sure image cover the complete view of front of vehicle.

4. Wiring:

Drill a hole in the Vehicle body, then pass the wire through the vehicle body, and use the sealing



ring on the wire to seal the punched part of the vehicle body.
Use the matching mounting pad, place it under the camera, use self-tapping screws, and drill holes for installation. When installing, ensure that the camera is installed horizontally, and the



（+15°） （-15°）

installation position does not block or interfere with the vehicle. Make sure to get the image of the MOIS camera as show below, so as to ensure the pedestrian can still be seen when walk closely to the front vehicle edge. Then tighten the screws to secure the camera.

5. Waterproofing:

After the camera is installed, use a sealant to seal around the MOIS camera. The sealant is the same as that of the BSIS solution, the installer should refer to the BSIS installation details in Chapter 4.

6. Image Effect Confirmation:

After installation, check the video display and confirm the image meets below requirement:

The picture is centralized and symmetrical on both sides, left and right rear-view mirrors in the image are symmetrical, and the captured section of the vehicle shown is symmetrical.

A pedestrian walking in front of vehicle could be clearly captured in the image.

The far end in the image is horizontal and there is no skew.

There are no other abnormal image colours, blurs, or obstructions in the image etc.

7. Acceptance Inspection

7.1 Cleaning

Clean up the installation site, collect and take away tools and waste separately, and put the original parts of the vehicle back in their original place, and then the installation work ends.

7.2 Installation Acceptance

Conduct acceptance for the installation details and parameter setup item by item according to the acceptance list provided by the customer.

(1) Focus on inspection of parameter setup and save screenshots.
(2) Focus on inspection of video images, and capture and save videos.
(3) Take pictures of the installation positions of all items.
(4) Take a picture of the inside of the cockpit after installation.

8. Types Of Warnings on the Alarm Panel

LED Warning Panel

System Powered Up

Normal powered on, no alerts.
Small blue LED on the side of the LED Panel

Failure Warning LED

System has detected a failure. If any part of the system fails the amber LED will light on the front of the LED panel.

This highlights there is an issue with the system and that the driver will need to use other methods to check when manoeuvring.

Amber Warnings

BSIS
If a VRU is detected in the Information Signal Area the panel will show an amber VRU without any Beeps.

MOIS
When the vehicle is stationary and a VRU is detected in the MOIS area the panel will give the amber VRU warning without any Beeps.

Red Warnings

BSIS
If a VRU is detected in the Warning Signal Area the panel will show a red VRU and give a slow Beep-Beep tone.

MOIS
Once the vehicle starts to move any VRU detected will give the red VRU warning and fast Beep-Beep-Beep-Beep tone.

The different tones inform the driver in which area the VRU has been detected.
The screen will also show the camera view in which the VRU has been detected.

DURITE®

durite.co.uk

@DuriteLimited

"THE **TRUSTED QUALITY** BRAND FOR PROFESSIONALS"

SAFE SF FLEET

Driving Safety Forward™

ID:A00283

SMMT MEMBER

RHA | Bronze Associate

COLD CHAIN FEDERATION MEMBER

CEA

LOGISTICS UK

Tel: +44 (0) 1255 555200 | Email: sales@durite.co.uk | Website: www.durite.co.uk