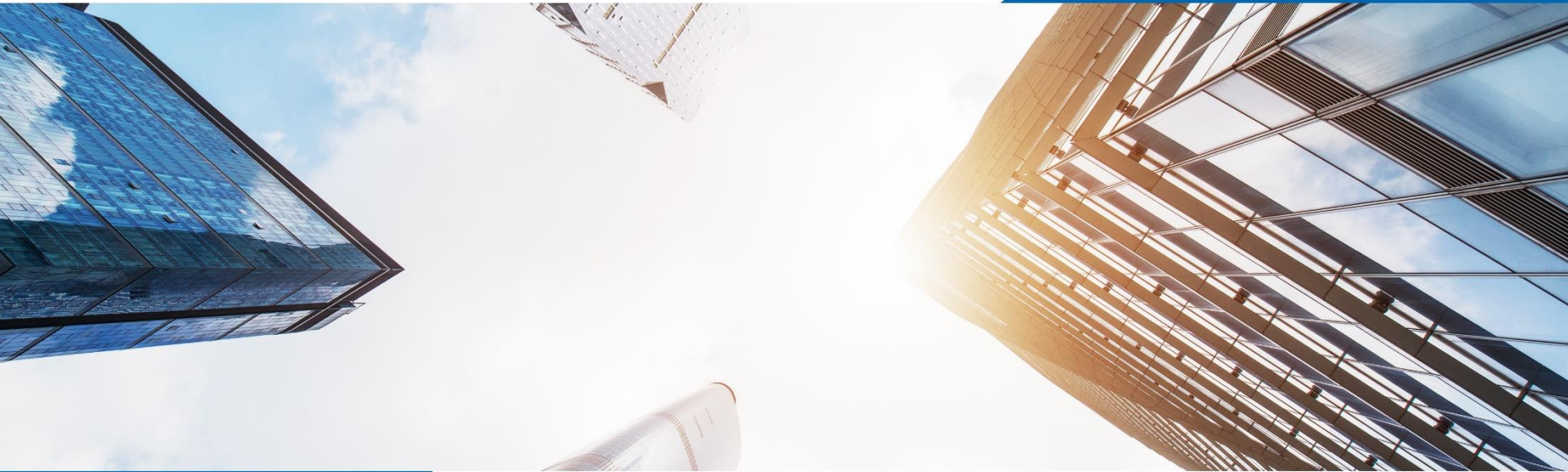




造 每 个 人 的 精 品 车



**CEM System**

# Contents

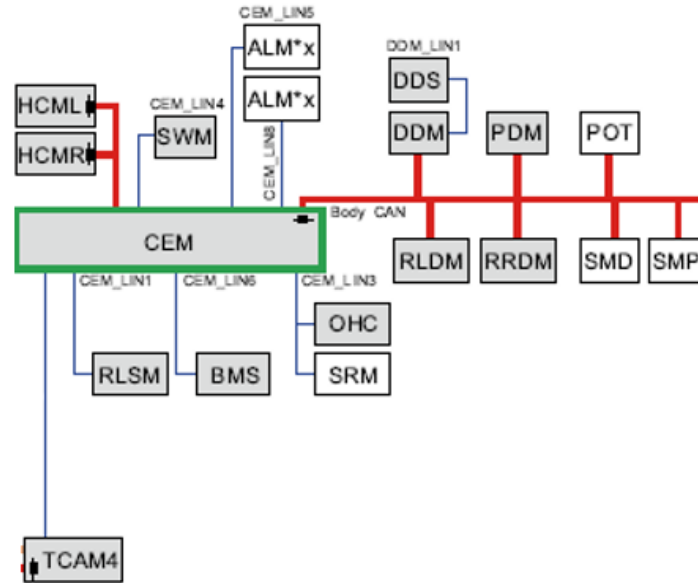
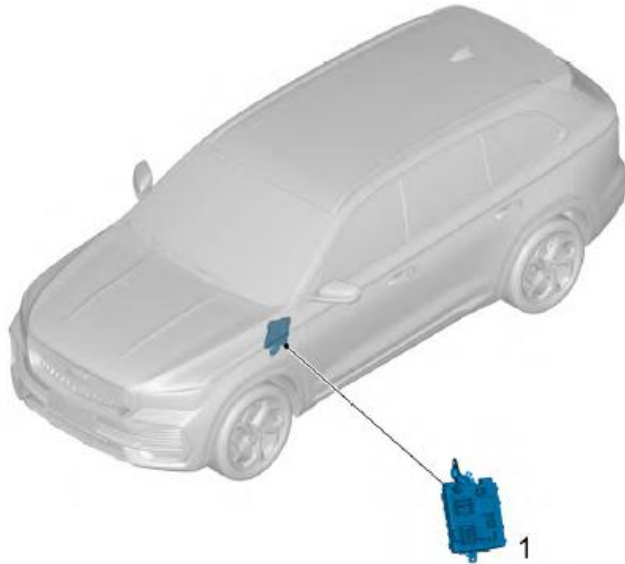
---



## ▶ System Overview

Functions

System diagnosis and repair



## Functions

1. Door lock control
2. Lighting control
3. Window control
4. Wiper control
5. Anti-theft control
6. Defrosting control
7. TPMS
8. PEPS

CEM: Central Electronic Module

# Contents

---



## System Overview

### ▶ **Functions**

## System diagnosis and repair



## ➤ Smart key locking/unlocking

- Press down remote unlock button once, the driver side door unlock.
- Press down remote unlock button twice within 500ms to unlock four doors, then the turn signal lamp flashes three times for confirmation, and the internal light fades on, with the position lamp on.

## ➤ Interior central switch unlocking/locking

- Press down the central door control switch button, then the CEM will drive to lock/unlock the four doors.
- When the vehicle speed is greater than 15km/h, the central control unlocking command will be disabled.

## ➤ Automatic re-locking

30s after the unlock of remote control, if any of the four doors and the trunk door is not opened, the doors(including tailgate) will be automatically relocked. Inside lamp switch off, and the system enter the alert status.

## ➤ Tailgate unlocking

When the start and stop button is in OFF position, press down the remote control unlock button of tailgate for more than 1s to unlock the backdoor.

## ➤ Tailgate locking automatically

The tailgate will be locked automatically within 1.5s after it is closed.

## ➤ Door lock motor overheating protection

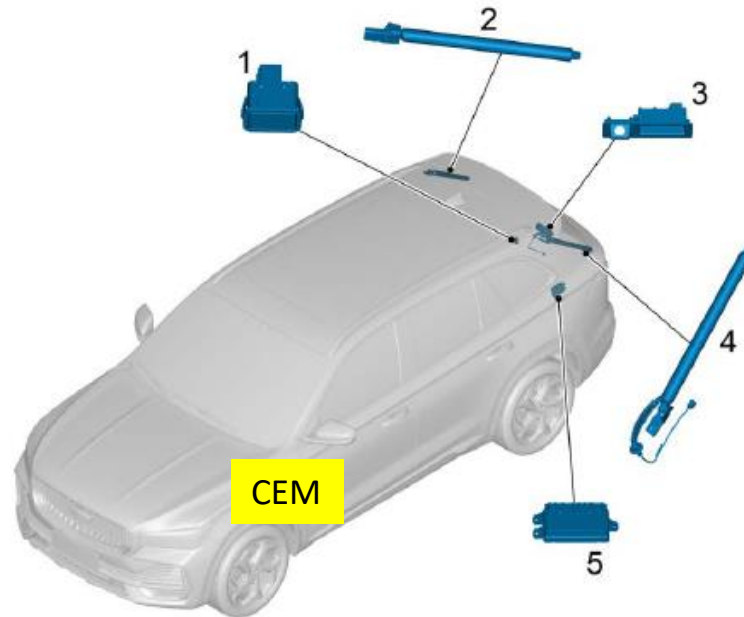
The door lock overheating protection function is activated after six consecutive locking or unlocking actions with an interval of not more than 1280ms, then locking/unlocking requests will be executed for 20s.

# Power Operated Tailgate Control

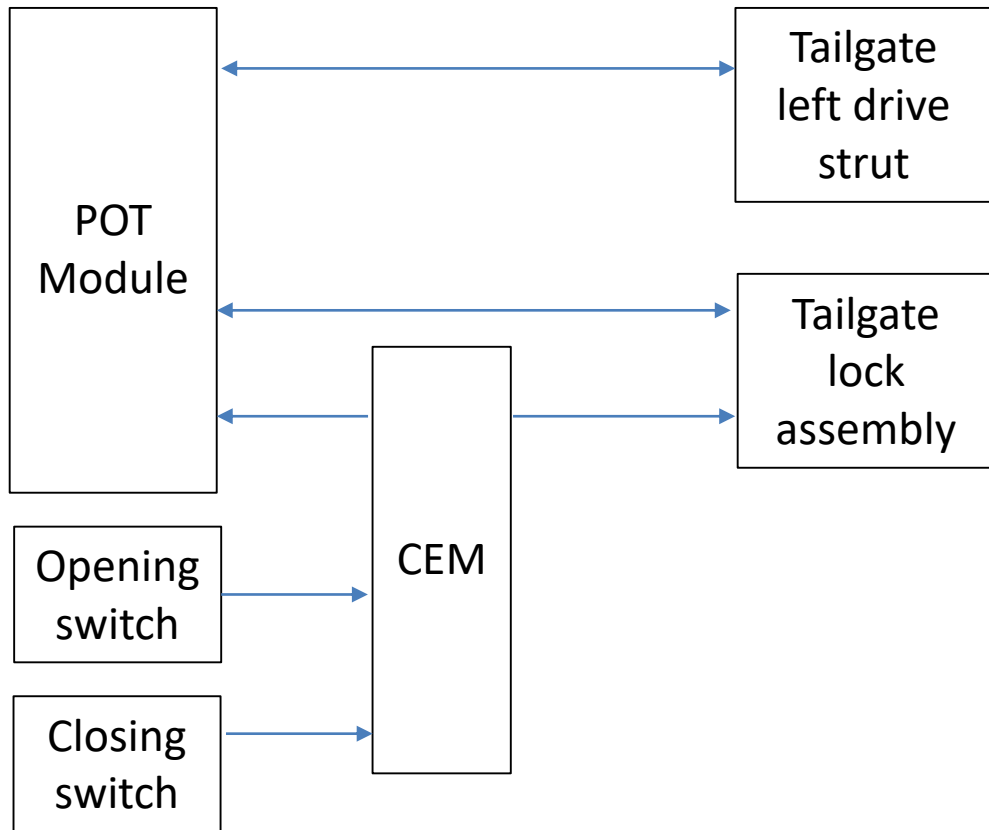


The POT module is also controlled by CEM, which can realize tailgate automatic opening, closing and cinching functions.

- 1 - Tailgate closing switch
- 2 - Tailgate right balance strut
- 3 - Tailgate opening switch
- 4 - Tailgate left drive strut
- 5 - POT (power operated tailgate module)



# Power Operated Tailgate Control





- Using GLDS, purchase “POT CAL” software;
- Click “continue” to start the calibration;
- After finished calibration, check the functions of power operated tailgate.

Geely Diagnostic System

Home KX11, 2021 X 扬融球

吉利汽车 GEELY AUTO Diagnostics Software

VIN: LB37852D2MS006189 Model/Year/Chassis: KX11, 2021, 006189

Connection: Virtual #1 12.1 V Active

Purchase Software Download Software Advanced Test

Find/Add Software

Upgrades Hardware Changes Function Changes All

Part Number	Description	Comments	Size (...)	Download Time (min)
<input type="checkbox"/> 8892871953	Add/remove key		126	1
<input type="checkbox"/> 8894791373	MAINTENANCE MODE		126	1
<input checked="" type="checkbox"/> 8893171475	POT CAL		126	1
<input type="checkbox"/> 8892872259	SET IMMO		126	1

Order Queue Order History Query Order

Order ID	Order Date	Expiration Date	Order Status
4045360793211537333			Available

Selected Software

Part Number	Description	Comments	Size (kB)	Download Ti...
<input checked="" type="checkbox"/> 8893171475	POT CAL		126	1

Purchase Revoke Cancel

Order Details

VIN: LB37852D2MS006189

Order Reference: 1

Control modules to be loaded: CEM

Size: 97 kB

Power Operated Tailgate Module (POT) Calibration

Warning! Panel tailgate is closed. Switch on the ignition (usage mode Active).

Continue



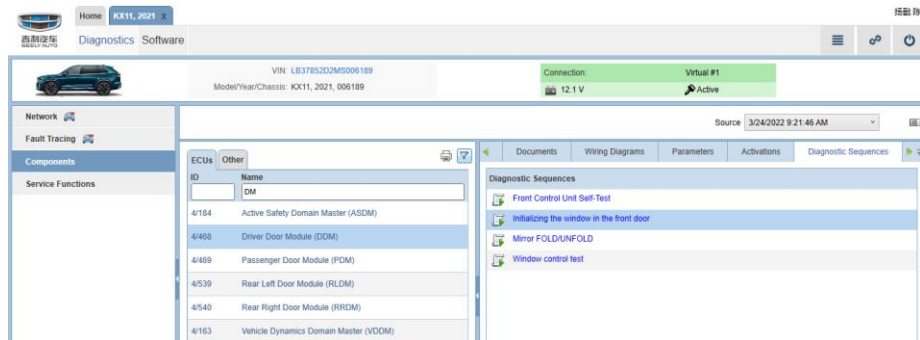


The windows of KX11 is controlled by the door module, CEM communicates with door module through Body CAN.

If window automatic closing or anti-pinch function can not work normally, you need do the **window self-learning** as follow:

- Operate the switch, pull up the window to fully close, continue to pull the window switch up and hold it for 3 seconds, release the switch;
- Operate the switch, pull down the window to fully open, continue to pull the window switch down and hold it for 3 seconds, release the switch;

You can also operate window initializing through GLDS, door module:



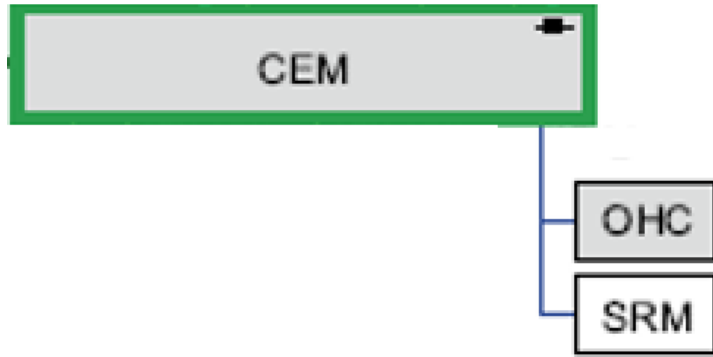
**Window motor overheating protection :** If operates the window motor for too long time, the door module will enter the software thermal protection state, automatic closing can not be used or window can not be lifted or lowered, until the motor temperature drops to normal

**Frequent operation protection:** If the window be operated too many times within a period of time, the control module will enter the protection mode, the automatic closing function will fail, and it needs to be self-learned.

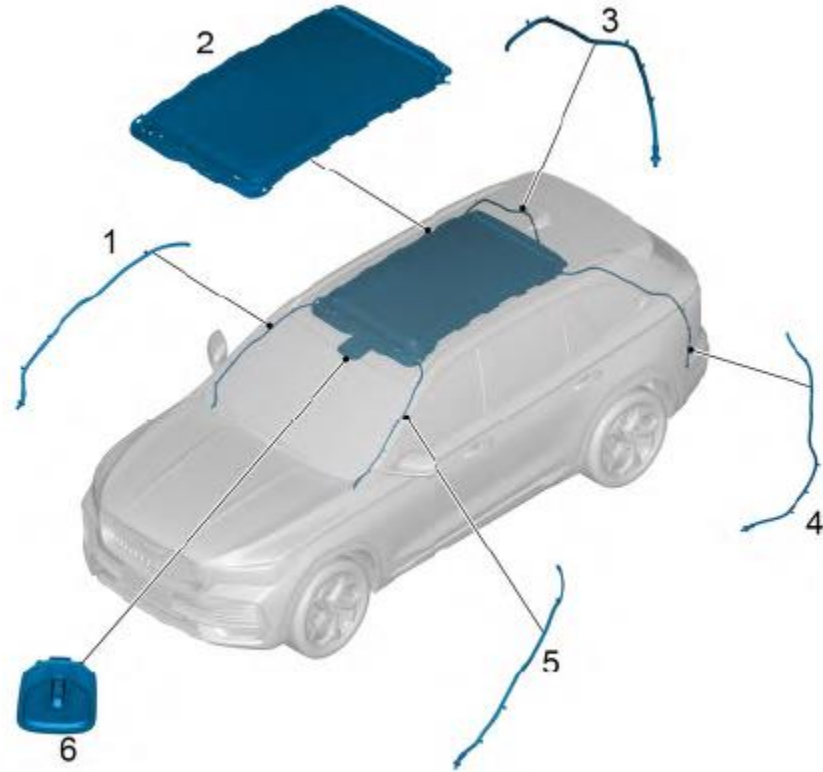
# Sunroof Control



CEM controls sunroof module through LIN line.



- 1 - Sunroof front water drain hose assembly
- 2 - Sunroof module
- 3 - Sunroof RR water drain pipe assembly
- 4 - Sunroof RL water drain pipe assembly
- 5 - Sunroof front water drain hose assembly
- 6- Overhead console unit (sunroof switch)



# Sunroof Calibration



Geely Diagnostic System



Home KX11, 2021 X

Diagnostics Software



VIN: LB37852D2MS006189  
Model/Year/Chassis: KX11, 2021, 006189

Connection: Virtual #1  
12.1 V Active

Network

Fault Tracing

Components

Service Functions

Source 3/24/2022 9:21:46 AM

ECUs		Other	
ID	Name	ID	Name
	CEM		
4/56	Central Electronic Module (CEM)		

- Documents
  - Wiring Diagrams
  - Parameters
  - Activations
  - Diagnostic Sequences
- Diagnostic Sequences**
- Ambient light module ALMCalibration
  - Brake Pedal Sensor Position Calibration
  - Calibration of WMM before mounting wiper blades.
  - Change vehicle mode to Normal mode or Transport mode
  - Sunroof Calibration**
  - Upload loginId to ota

VIRTUAL (VCC-801687-1, version 1.2)

Information

Start sunroof calibration by pressing the buttons below

**Warning!** Switch on the ignition (usage mode Active), the sunroof is closed.

Sunroof Calibration

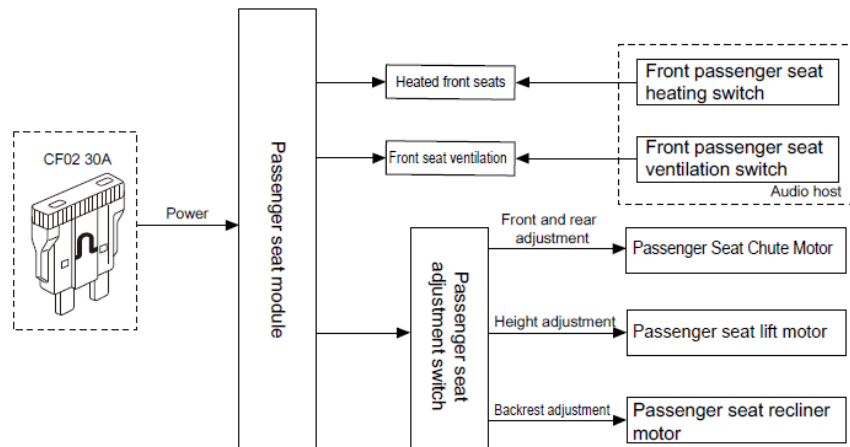
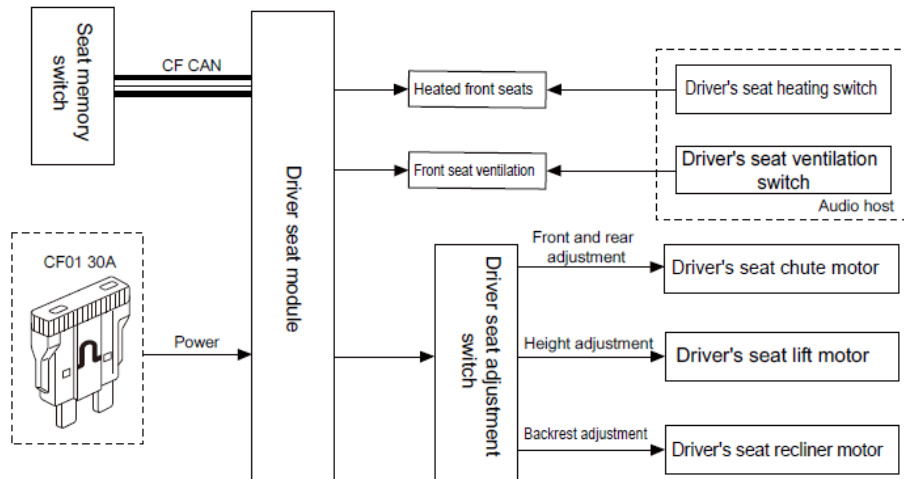
Close

CEM → Diagnostic Sequences → Sunroof Calibration



For the KX11 power seat control system, there are two kinds:

- If the seat only has the power adjustment function but without ventilating or heating functions, the switch on the seat controls the adjustment directly;
- If the seat also has the ventilating or heating functions, the power seat controls by seat module.



# Seat Module Calibration



吉利汽车 GEELY AUTO

Home KX11, 2021 X

Diagnostics Software

扬飏陈

VIN: LB37852D2MS006189  
Model/Year/Chassis: KX11, 2021, 006189

Connection: Virtual #1  
12.1 V Active

Source: 3/24/2022 9:21:46 AM

Documents Wiring Diagrams Parameters Activations **Diagnostic Sequences**

ECUs	Other
ID	Name
	SM
4/422	Driver Seat Module (SMD)
4/197	Electronic Gear Selector Module (EGSM)
4/423	Passenger Seat Module (SMP)

Diagnostic Sequences

Driver Seat Module (SMD) Calibration

Driver Seat Module (SMD) Calibration

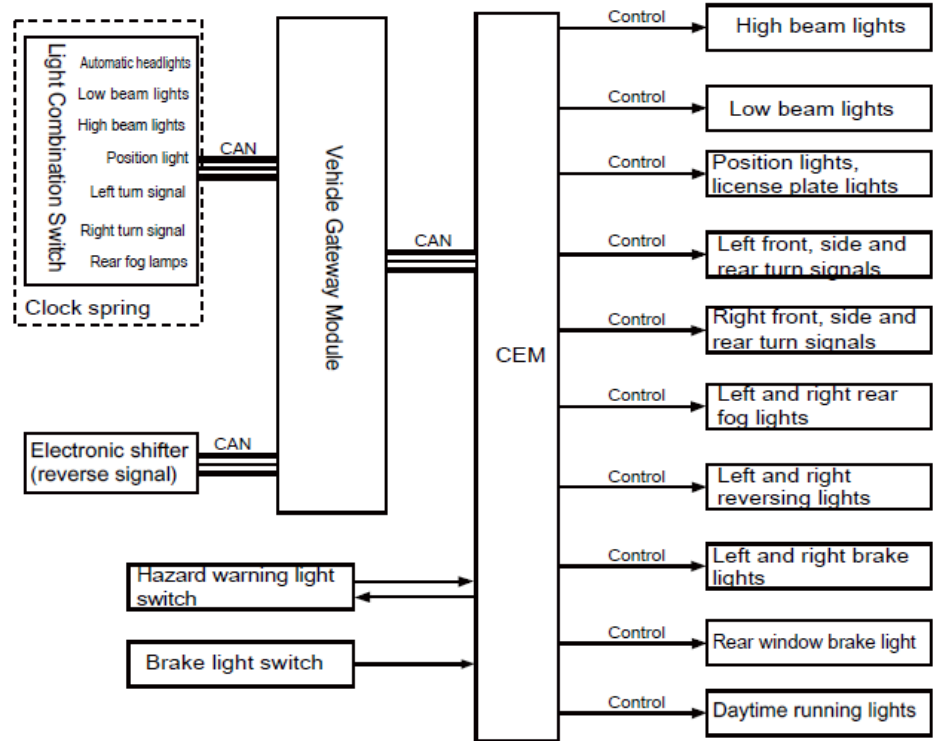
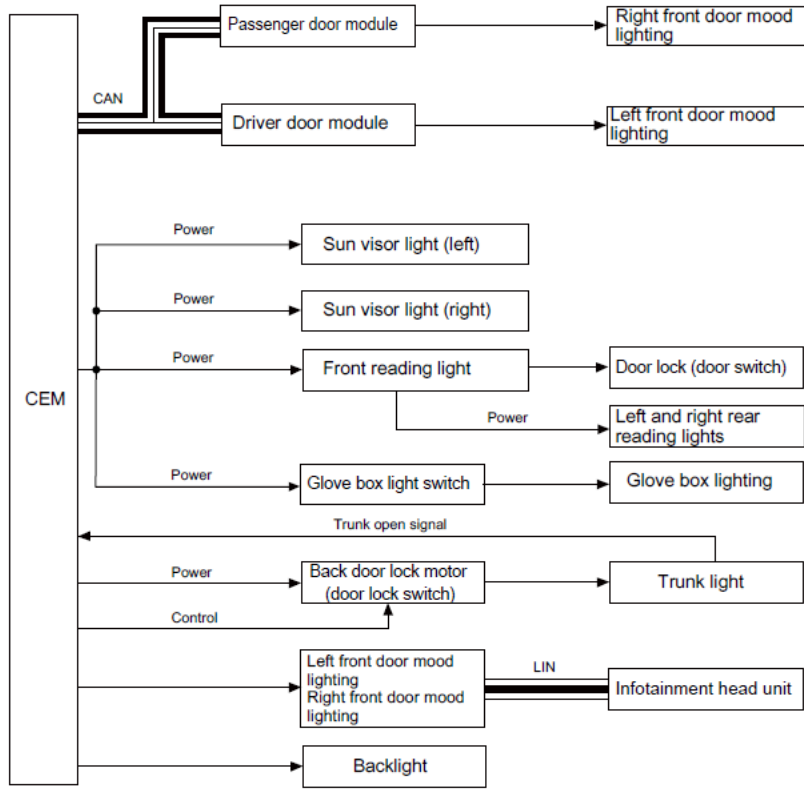
- Switch on the ignition (usage mode Active).
- Driver should leave the seat before start calibration.
- Press "Calibrate".

Using GLDS, Diagnostics, Components:  
SMD/SMP → Diagnostic Sequences → Seat module calibration

Calibrate

Close

# Lighting Control



# “Follow me home function”



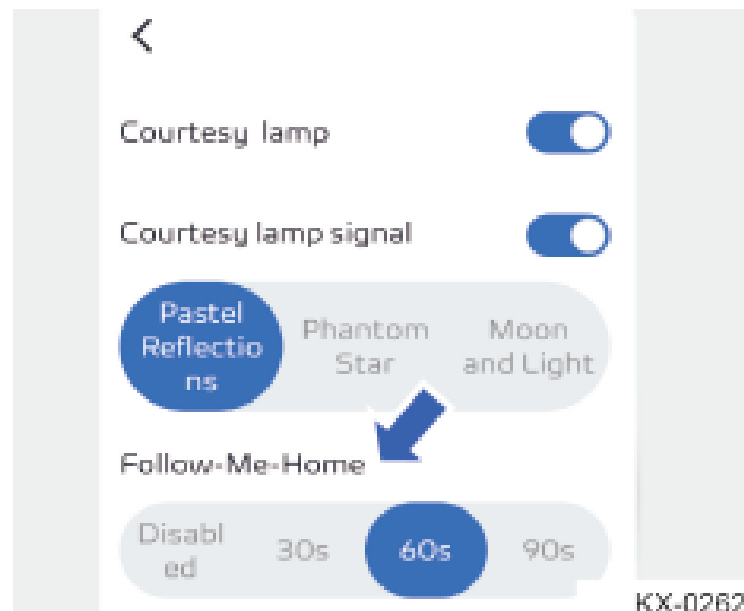
## ➤ “Follow me home function” setting

This function can be closed or set on the MMI.

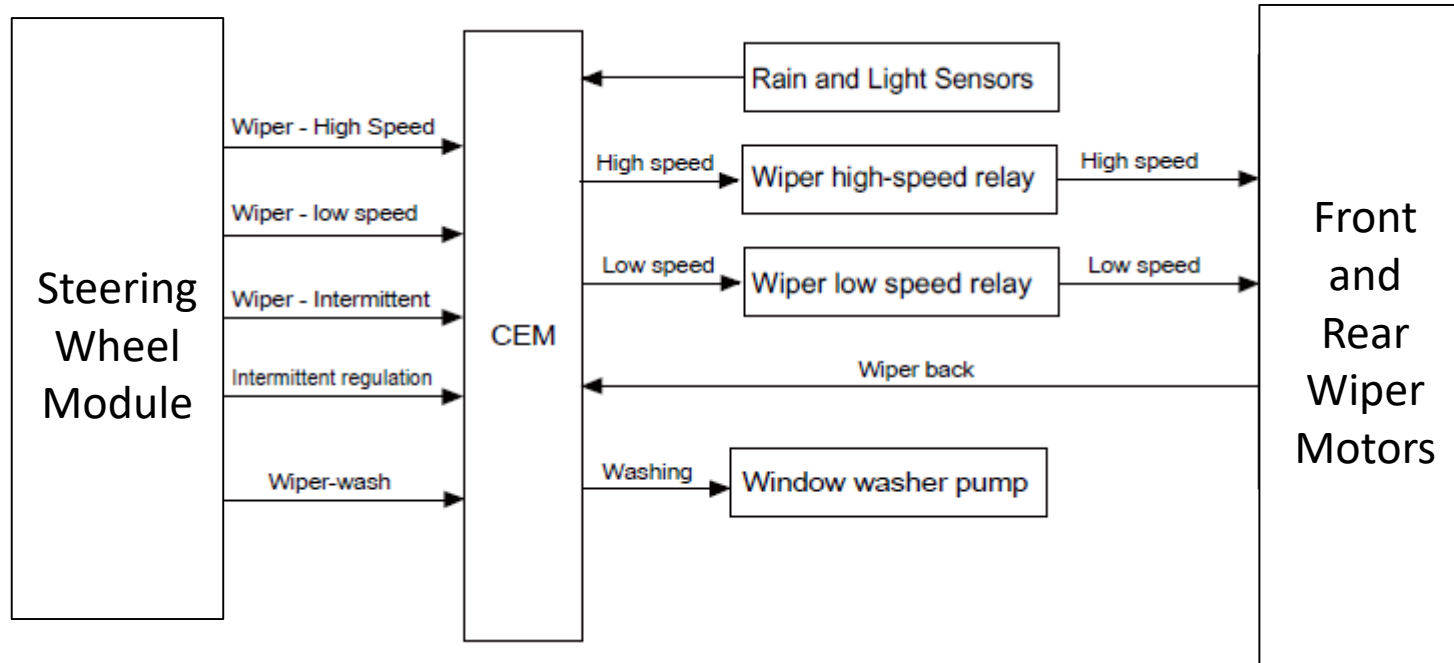
## ➤ “Follow me home function” activation

If the function not closed, there are two methods to activate it:

1. If the headlights are on “Auto” mode, this function will be activated automatically after the vehicle is turned off;
2. If the headlights are not on “Auto” mode, within 10 minutes after the vehicle is turned off, turn the light control switch on steering wheel to the limit position, then release it, the high beam flashes once and this function be activated.



# Wiper Control



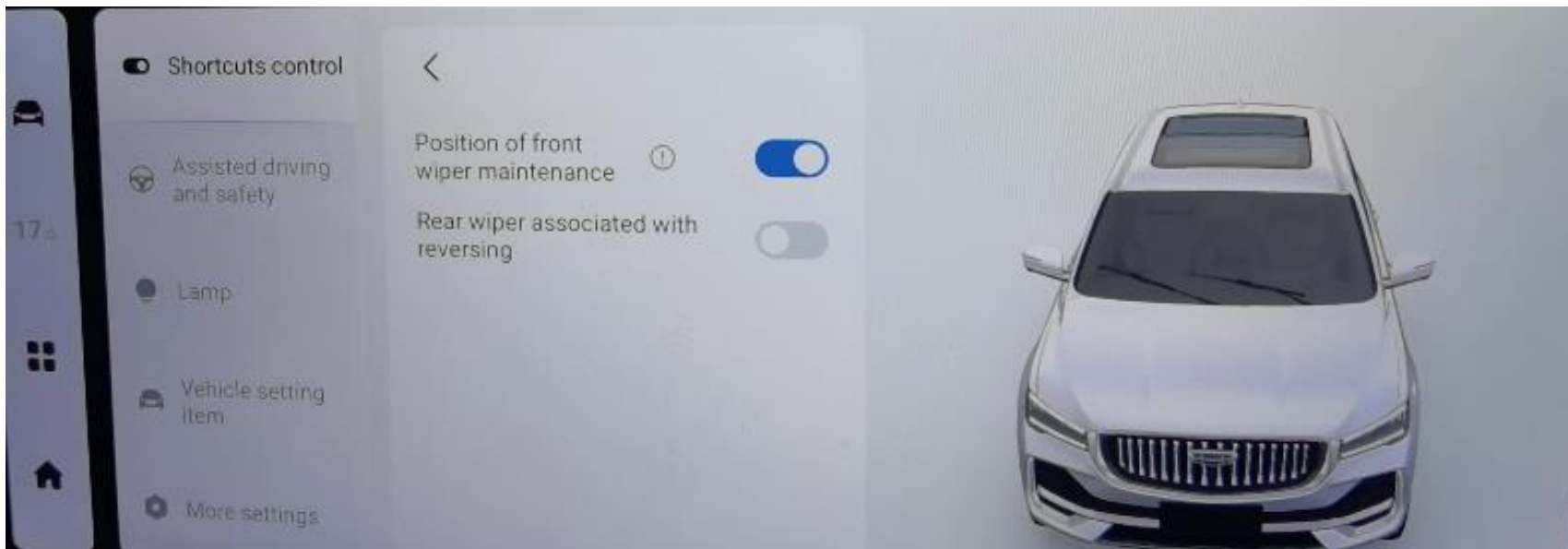


# Wiper repair function

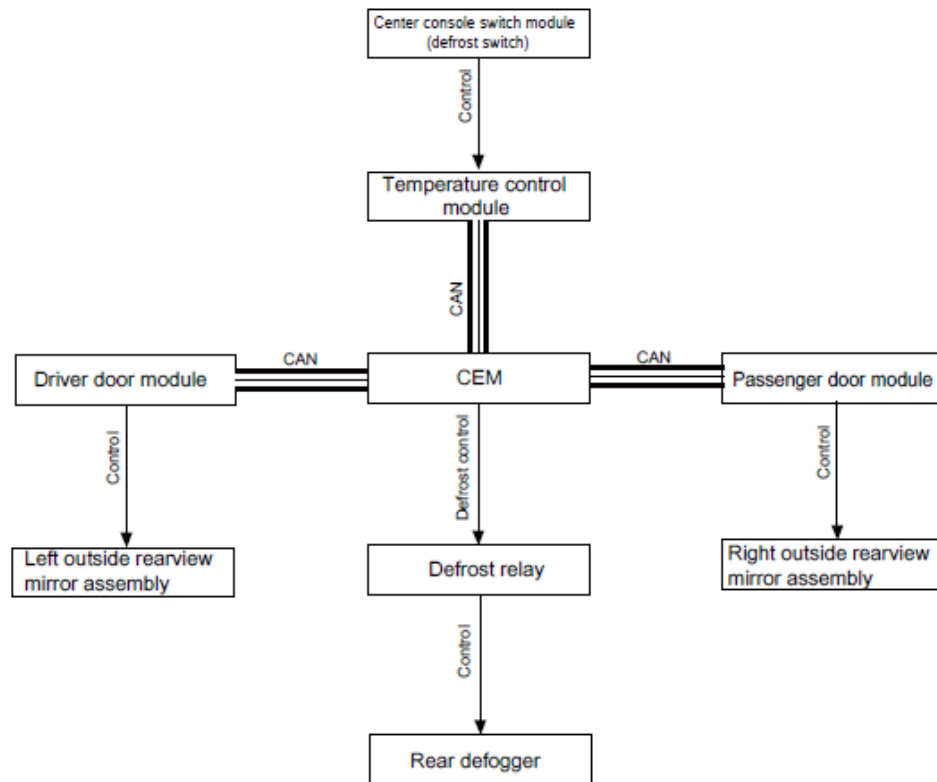


On the multimedia interface, click in turn: Vehicle Settings → Shortcuts control → Wiper.

Enable the front wiper maintenance position function in this interface.



# Defrost system



# Transport Mode



Geely Diagnostic System

Home **KX11, 2021 X** 杨毅陈

吉利汽车 GEELY AUTO Diagnostics Software

VIN: LB37852D2MS006189  
Model/Year/Chassis: KX11, 2021, 006189

Connection: Virtual #1  
12.1 V Active

Source: 3/24/2022 9:21:46 AM

Documents Wiring Diagrams Parameters Activations **Diagnostics Sequences**

ECUs	Other
ID	Name
	CEM
4/56	Central Electronic Module (CEM)

**Diagnostics Sequences**

- Ambient light module ALMCalibration
- Brake Pedal Sensor Position Calibration
- Calibration of WMM before mounting wiper blades
- Change vehicle mode to Normal mode or Transport mode**
- Sunroof Calibration

**Information**

The following diagnostic services can be performed during a pre-delivery check. Select an appropriate diagnostic service below. Perform the service according to the description.

Hint: Normal mode means that the vehicle's electrical system is fully functional. During normal use, the vehicle must be in Normal mode.

Hint: Transport mode means that the vehicle's electrical system has limited functionality. The aim of this is to minimize electricity consumption when the vehicle is not used for a longer period.

Hint: It is not possible to change vehicle mode using diagnostics if the vehicle is currently in usage mode Driving.

Hint: This function cannot be used to change the vehicle mode from Crash mode.

CEM - Vehicle mode  
Normal

Normal mode

Transport mode

Close

Using GLDS, Diagnostics, Components:  
CEM → Diagnostic Sequences → Change mode to normal or transport.

# Contents

---



System Overview

Functions

▶ **System diagnosis and repair**



VIN: LB37852D2MS006189  
 Model/Year/Chassis: KX11, 2021, 006189

Connection: Virtual #1  
 12.1 V Active

Network

Fault Tracing

Components

Service Functions

Source 3/24/2022 9:21:46 AM

ECUs		Other
ID	Name	
	CEM	
4/56	Central Electronic Module (CEM)	

DTCs Documents Wiring Diagrams Parameters Activations Diagnostic Seq

Confirmed Unconfirmed All DTCs

DTC

- CEM-B109A4A Battery Backed-up Sounder. System Internal Failures. Incorrect component installed.
- CEM-B109B11 License Plate Lamp Supply Voltage. General Electrical Failures. Circuit short to ground.
- CEM-B109B12 License Plate Lamp Supply Voltage. General Electrical Failures. Circuit short to battery.
- CEM-B10A202 Crash Input. General signal failure.
- CEM-B10A211 Crash Input. General Electrical Failures. Circuit short to ground.
- CEM-B10A215 Crash Input. General Electrical Failures. Circuit short to battery or open.
- CEM-B10A613 12 V support battery power input. General Electrical Failures. Circuit open.
- CEM-B10BE96 Solar Sensor. Component Failures. Component internal failure.
- CEM-B10C524 Trunk unlock pull switch. General Signal Failures. Signal stuck high.
- CEM-B10F311 Left front position light. General Electrical Failures. Circuit short to ground.



吉利汽车  
GEELY AUTO

Home KX11, 2021 X

Diagnostics Software

扬毅陈



VIN: LB37852D2MS006189  
Model/Year/Chassis: KX11, 2021, 006189

Connection: Virtual #1  
12.1 V Active

Network

Fault Tracing

Components

Service Functions

DTCs

Documents

Wiring Diagrams

Parameters

Activations

Diagnostic Sequences

Images

ECU Identification

Parameters

Selected

Parameter

- 12 V main battery current - CEM
- 12 V main battery State of Charge (SoC) - CEM
- 12 V main battery temperature - CEM
- 12 V main battery voltage - CEM
- 12 V main battery, average quiescent current - CEM
- 12 V support battery voltage - CEM
- Accessory illumination supply - CEM
- Activate Driver Side Mirror Defroster - CEM
- Activate Electrical Front Windscreen - CEM
- Activate Electrical Rear Window - CEM
- Activate Passenger Side Mirror Defroster - CEM
- Ajar switch 1, hood latch - CEM
- Ajar switch 2, hood latch - CEM

# Actuation test



Geely Diagnostic System

扬融 陈



Home KX11, 2021 X

Diagnostics Software



VIN: LB37852D2MS006189  
Model/Year/Chassis: KX11, 2021, 006189

Connection: Virtual #1  
12.1 V Active

Source 3/24/2022 9:21:46 AM

Network

Fault Tracing

Components

Service Functions

ECUs Other

ID	Name
	CEM
4/56	Central Electronic Module (CEM)

Documents Wiring Diagrams Parameters Activations Diagnostic Sequences

Activation	Alternatives
Exterior light, front, low beam, left - CEM	
Exterior light, front, low beam, right - CEM	
Exterior light, front, position light, left - CEM	On
Exterior light, front, position light, right - CEM	On
Exterior light, front, turn indicator, left - CEM	On
Exterior light, front, turn indicator, right - CEM	On
Exterior light, rear window brake light - CEM	Off
Exterior light, rear, brake light, left - CEM	On

Start

Parameter	Value	Unit
-----------	-------	------

# Diagnostic Sequences



Geely Diagnostic System

— □ ×  
扬毅 陈



Home KX11, 2021 X

Diagnostics Software



VIN: LB37852D2MS006189

Model/Year/Chassis: KX11, 2021, 006189

Connection:

Virtual #1

12.1 V

Active

Network

Fault Tracing

Components

Service Functions

ECUs

Other

ID

Name

CEM

4/56

Central Electronic Module (CEM)

Documents

Wiring Diagrams

Parameters

Activations

Diagnostic Sequences

Diagnostic Sequences

- Ambient light module ALMCalibration
- Brake Pedal Sensor Position Calibration
- Calibration of WMM before mounting wiper blades.
- Change vehicle mode to Normal mode or Transport mode
- Sunroof Calibration



# Software Reload



Home KX11, 2021 X

Diagnostics **Software**

扬融 陈



VIN: LB37852Z9MS018450  
Model/Year/Chassis: KX11, 2021, 018450

Connection: Virtual #2  
14.6 V Driving

Purchase Software

Download Software

Advanced Test

Find/Add Software

Upgrades Hardware Changes Function Changes **All**

Part Number	Description	Comments	Size (...)	Download Time (min)
<input type="checkbox"/>	CEM			
<input checked="" type="checkbox"/>	8893453216 CEM RELOAD(BLUETOOTH KEY)		6631	1

Order Queue Order History Query Order

Order ID	Order Date	Expiration Date	Order Status		
Initialized					
Selected Software					
<input checked="" type="checkbox"/>	Part Number	Description	Comments	Size (kB)	Download Ti...
<input checked="" type="checkbox"/>	8893453216	CEM RELOAD(BLUETOO		6631	1

Add Software

Remove

**Purchase**

Order for Independent Workshop



After replacing a new CEM (central electronic module, we need reload the software and write the ESK code; but when a new CEM installed, there are no VIN information, so GLDS could not get VIN information, it shows VIN "0000000000000000", we need write the right VIN code first.

The operations are as follows:

## Step 1: Turn off GLDS VIN decoding

The screenshot illustrates the steps to turn off GLDS VIN decoding in the Geely Diagnostic System. The interface shows the 'Settings' window with the 'Personalize Settings' tab selected. The 'VIN decoding' option is currently set to 'On'. The steps are numbered as follows:

1. Click the menu icon (hamburger menu) in the top right corner.
2. Click 'Manage Settings' in the dropdown menu.
3. Click the 'On' button next to 'VIN decoding'.
4. Click the 'Off' button next to 'VIN decoding'.
5. Click 'Continue' in the 'Vin Decoding' dialog box.
6. Click 'Save' at the bottom of the settings window.



**Step 2:** Close GLDS and restart again, write the right VIN code and click “connect”;

**Step 3:** Choose Software module, reload CEM software;

**Step 4:** On “SET IMMO” , write ESK code to new CEM.

Note:

- When reloading CEM software, connect a battery charger to ensure vehicle power supply;
- After finishing these steps, turn on the GLDS “VIN decoding” .

The screenshot displays the Geely Diagnostic System interface. At the top, there are navigation tabs: Home, Search Vehicle, Recent Vehicles, and Connected Vehicles. The 'Connected Vehicles' tab is active, showing a table with the following data:

VIN	Model	Year	Connection	Status
0000000000000000	KX11	2021	虚拟 #1	

A red box highlights this row. Below the table is the 'Fine-tune Vehicle' section, which includes input fields for VIN, Model, Year, Partner Group, Engine, Transmission, Steering, Body Style, and Special Vehicle. The VIN field contains 'LD37852D2MS' and '006189', both of which are circled in red. A red arrow points from the 'Connect' button in the table above to the 'Connect' button in the 'Fine-tune Vehicle' section. The 'Connect' button in the 'Fine-tune Vehicle' section is also circled in red. A red box highlights the VIN input fields. The text 'VIN Decoding is Off' is displayed in red. The interface also features a 'Quick Links' sidebar on the right and a 'Release Notes' section at the bottom right.



## Happy Life, Geely Drive

1760, Jiangling Road, Binjiang District, Hangzhou,  
Zhejiang Province, P, R.China, 310051

[www.geely.com](http://www.geely.com)

**No.918, Binhai 4th Rd. Hangzhou Bay New District,  
Ningbo, Zhejiang, P. R. China, 315336**

Making Refined Cars for Everyone

[www.geely.com](http://www.geely.com)