

# **Guide to BMW CIP Programming with MaxiSys Pro**

## **1. BMW Programming Notes**

- Connect an Autel or BMW approved battery charger to the vehicle, and ensure battery voltage is between 13V and 14V.
- Turn off all the electrical equipment, such as air conditioner, headlamps, turn signal lamps, wipers, etc. Unstable current will abort programming.
- Turn off wipers or cleaning system. Wipers may be active during programming, so please make sure there is enough space.
- Please check all the control units are installed and function properly before programming.
- Troubleshoot or clear DTCs of the vehicle before programming.
- Please set the correct date first. It will be recorded into the control units during programming and coding.
- Do not turn the ignition off during programming and coding unless specifically instructed to do so by MaxiSys Pro.
- Do not activate or move any part of the vehicle, such as windows, doors, the steering wheel, seats, buttons and other adjusting knobs. Failure to do so may abort programming.

Note: This document is built up based on BMW V3.00. It only applies to BMW V3.00 or later versions.

## **2. Entering CIP Main Interface**

Tap 'CIP (Coding, Individualisation, Programming)', as shown in figure 2.1.

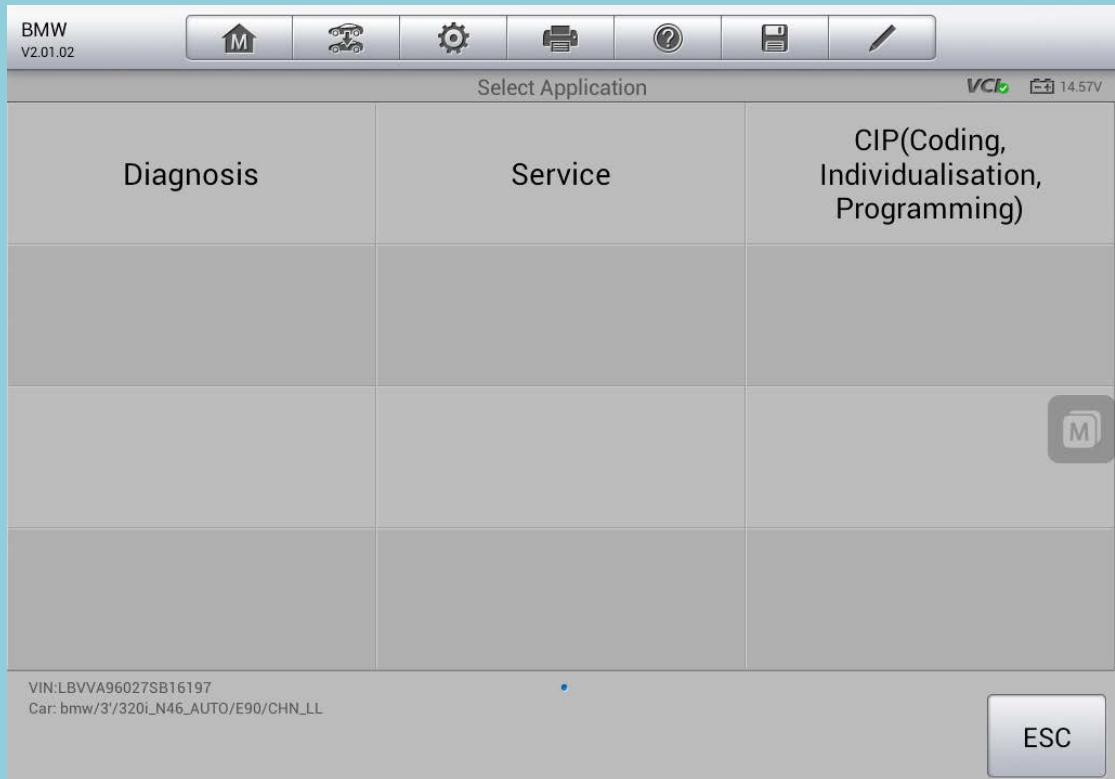


Figure 2.1

For vehicles performed CIP function with MaxiSys Pro for the first time, please refer to **2.1 Initial Entering CIP**.

For vehicles performed CIP function with MaxiSys Pro before, MaxiSys Pro will save the previous session automatically, and a prompt message will pop up to confirm whether to use the saved session. Please refer to **2.2 Re-entering CIP** for additional information.

Note: MaxiSys Pro can only store up to 5 vehicle sessions. It will prompt you to remove some unnecessary ones if there are more than 5 sessions. Please refer to **2.2 Re-entering CIP**, as shown in figure 2.10.

## 2.1 Initial Entering CIP

MaxiSys Pro will read the current vehicle configuration information from CAS and LM/FRM when entering CIP for the first time, so CAS and LM/FRM cannot be replaced at the same time. Vehicle information will be shown as figure 2.2. You can

scroll through the list by sweeping your finger up and down to see more information.

The screenshot shows a mobile application interface for a BMW vehicle. At the top, there is a navigation bar with icons for Home, Configuration, Settings, Print, Help, and Edit. The title bar displays "Information" and the version "V1.30.21". On the right side of the title bar are status icons for "VCU" and a battery level at "14.46V". The main content area is a table with the following data:

Chassis	SB16197
Model series	E90
Type destination code	VA96
Time criterion	0906
Paint code	0A22
Upholstery code	LCSW

At the bottom of the screen are three buttons: "Edit", "Ok", and "ESC".

Figure 2.2

Tap 'Edit' to revise vehicle configuration information and the related interface will be shown as figure 2.3. You can scroll through the list by sweeping your finger up and down to see more information.

Note: To avoid the issue that the vehicle cannot work properly after revising the configuration information, it's recommended to note down the current configuration information.

The screenshot shows the BMW VCI software interface. At the top, there is a menu bar with icons for Home, Tools, Settings, Print, Help, and a pen. The version is listed as V1.30.21. On the right side of the top bar, it says "VCI" and "14.46V". Below the menu bar is a table with configuration items:

SA:	
205	Automatic transmission
240	Leather-steering wheel
249	Multifunction steering wheel
2BH	Light alloy wheels double-spoke style 156
302	Alarm system

At the bottom right of the table area, there are three buttons: "Add", "Remove", and "ESC".

Figure 2.3

Tap 'Add' or 'Remove' to do the corresponding operation, and then tap 'ESC'.

You will be prompted to confirm the revised configuration information, as shown in figure 2.4.

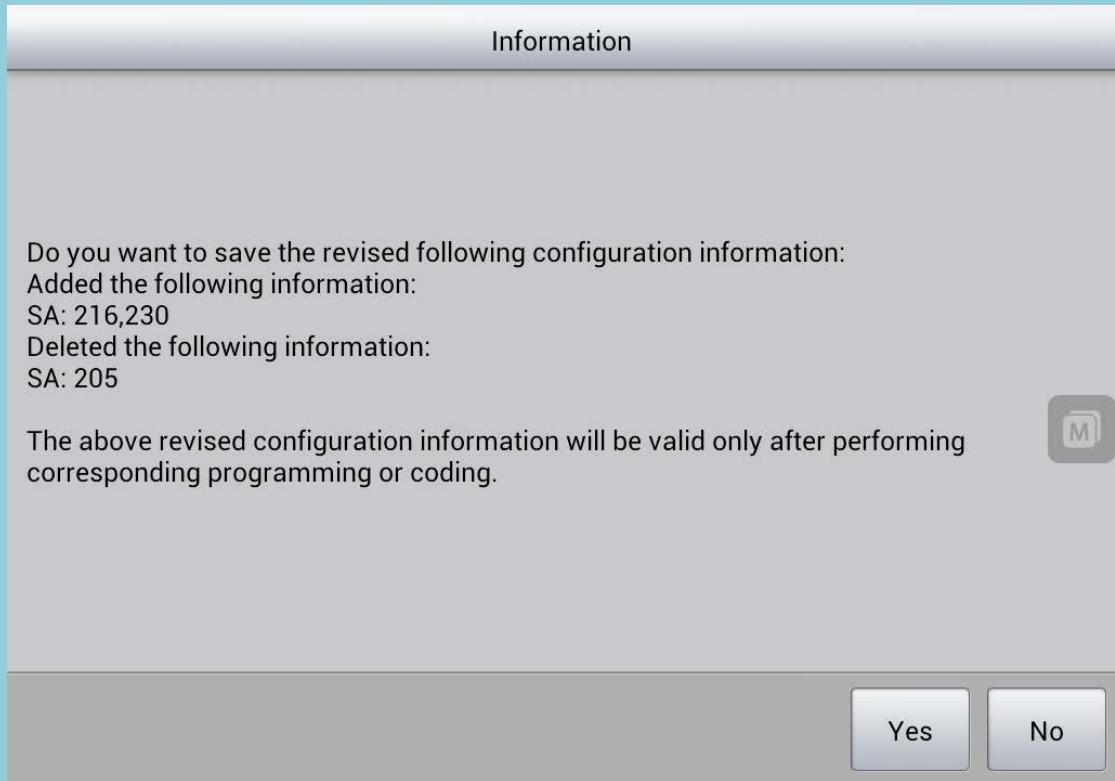


Figure 2.4

Tap 'Yes' to save the information, or tap 'No' to cancel the changes. The above revised configuration information will be valid only after performing corresponding programming or coding.

Then MaxiSys Pro will communicate with all control units. This step will take several minutes, which is based upon vehicle specifications, as shown in figure 2.5.

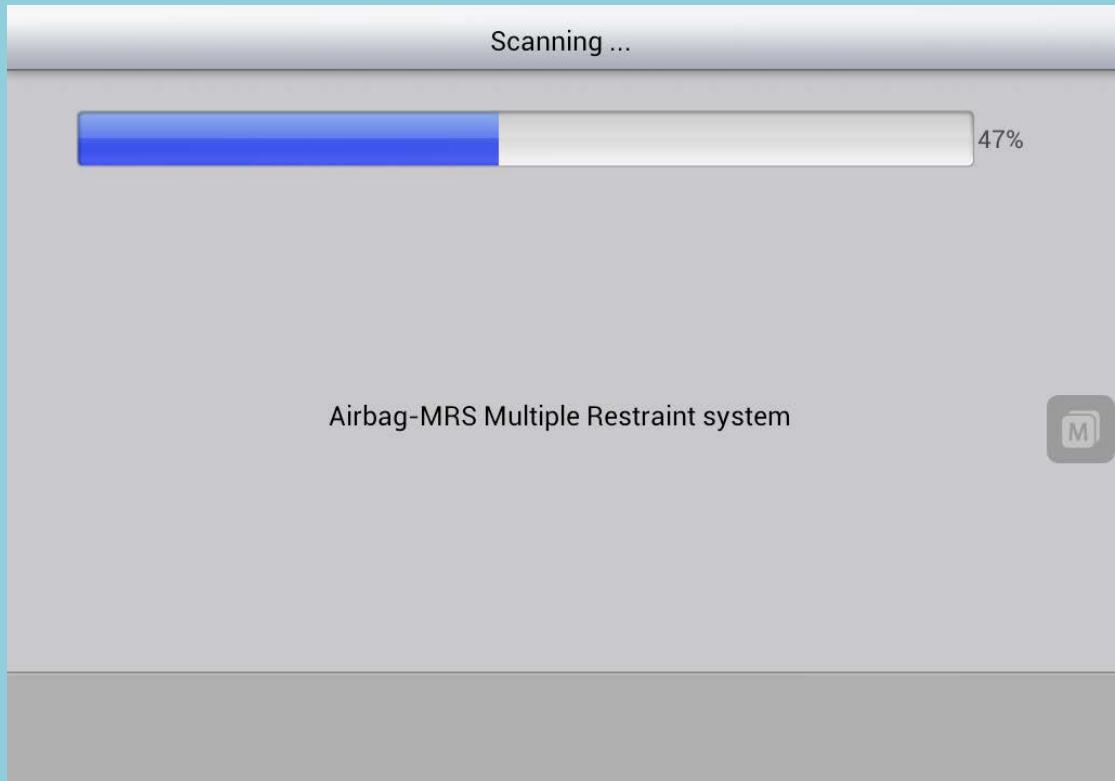


Figure 2.5

MaxiSys Pro will ask whether the control units have been replaced, as shown in figure 2.6. If the control units have been replaced, tap 'Yes' to select the replaced control units. Alternatively, tap 'No'.

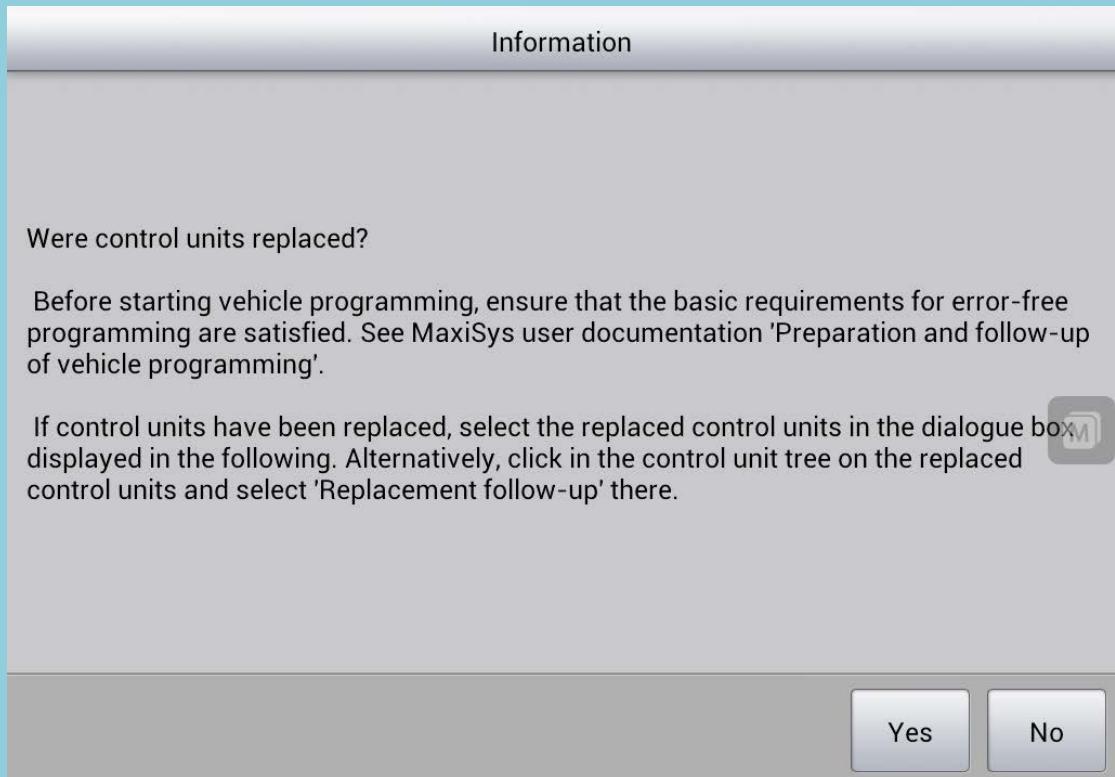


Figure 2.6

MaxiSys Pro will read integration level (I-level) from vehicle after performing all the above procedures. If the integration level could not be read from vehicle, manual input is required, as shown in figure 2.7.

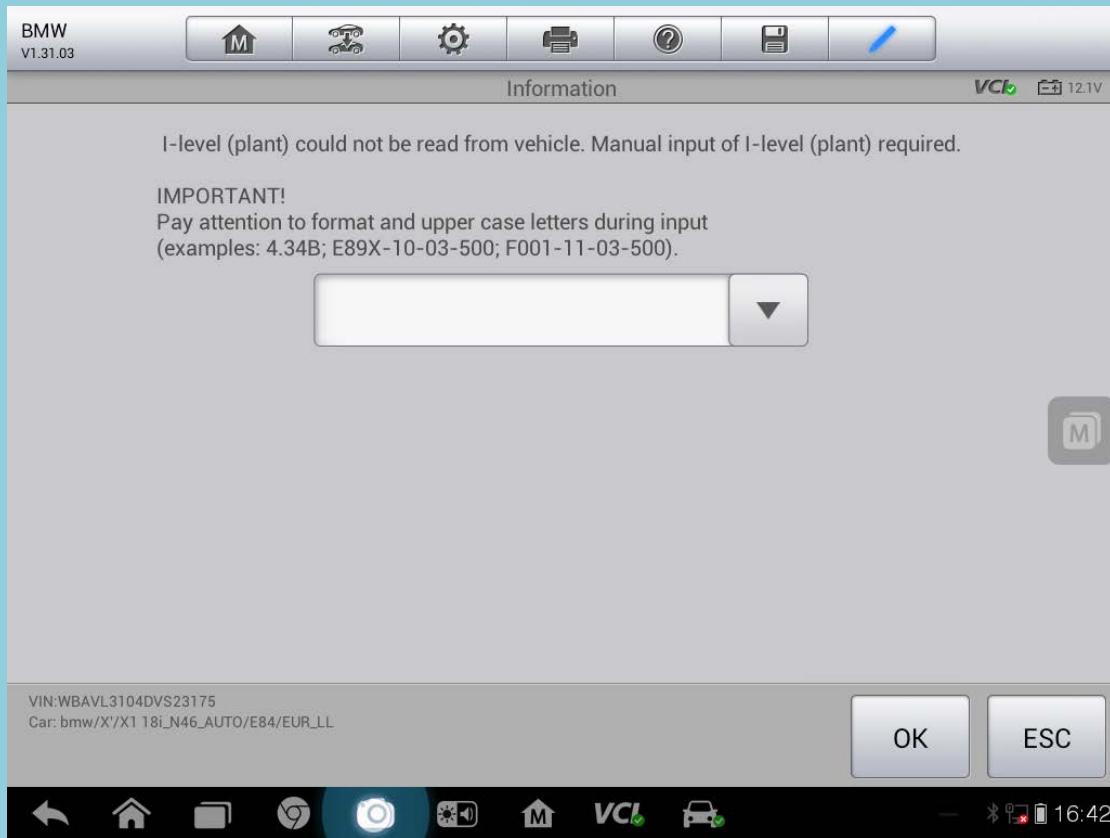


Figure 2.7

If the vehicle integration level is very new, the following message in figure 2.8 may appear on the screen.

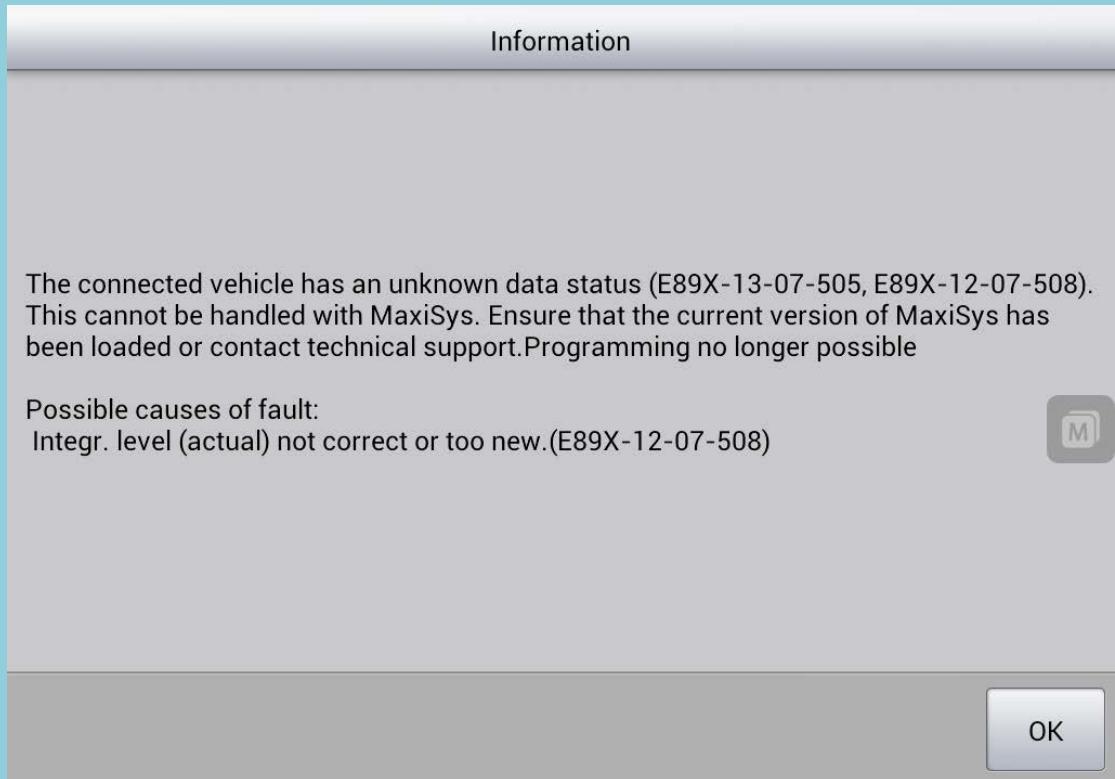


Figure 2.8

This shows that the vehicle integration level is newer than the one stored in MaxiSys Pro, and programming function is not recommended.

MaxiSys Pro will then read related information from each control unit to confirm whether it needs to be replaced or upgraded. After that CIP Main Interface will be shown. Please refer to **2.3 CIP Main Interface** for detailed information.

## 2.2 Re-entering CIP

If CIP function has been performed before on the vehicle, MaxiSys Pro can save the previous session which records the configuration information. When MaxiSys Pro re-enters CIP, a prompt message will pop up to confirm whether to use the saved session, as shown in figure 2.9.

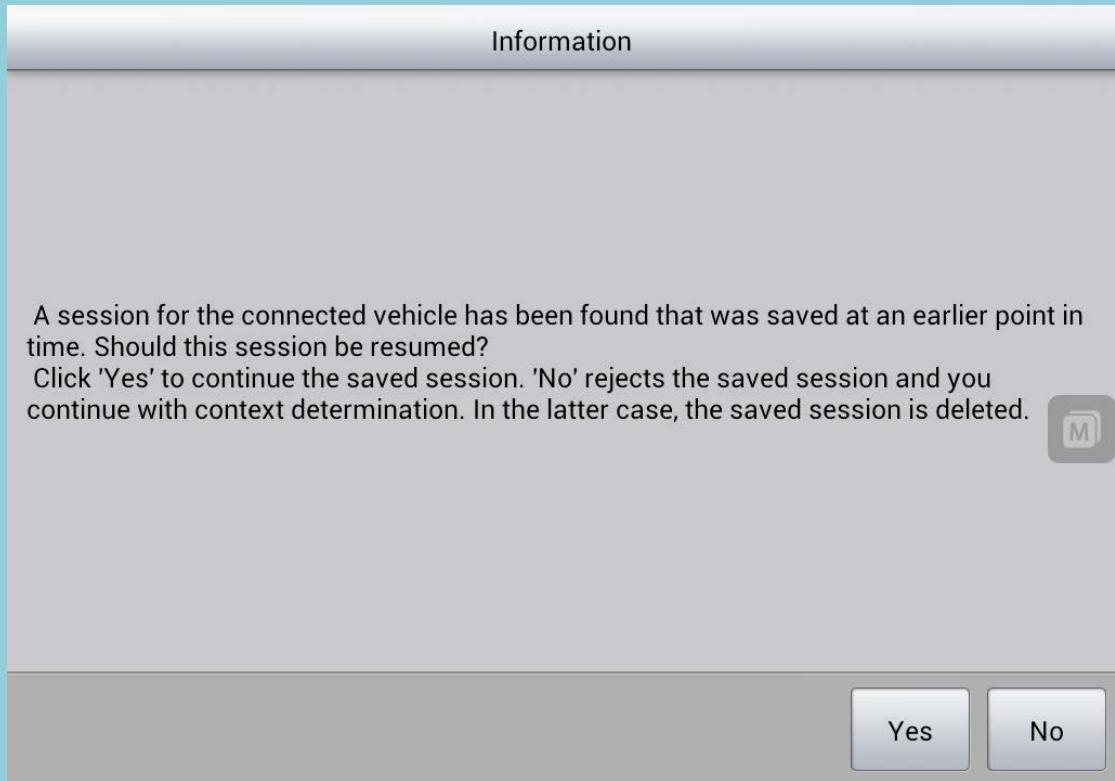


Figure 2.9

Tap 'Yes' to continue the saved session without establishing communication with vehicle again. This will realize fast access to CIP. Tap 'No' to reject the saved session, and MaxiSys Pro will establish communication with vehicle just as the procedure in initial entering CIP. Please refer to **2.1 Initial Entering CIP** for additional information.

It is recommended not to use the session saved long time ago for the actual information of the vehicle may have changed.

MaxiSys Pro is set to only store up to 5 vehicle sessions. It will prompt you to remove some unnecessary ones if there are more than 5 sessions, as shown in figure 2.10.



Figure 2.10

Tap 'OK' and a list of vehicle record will display. You can select the sessions to be removed, as shown in figure 2.11.

BMW V1.30.21		Home	Vehicle Record	Settings	Print	Help	File	Edit
Vehicle Record								VCI 14.46V
Vehicle ident. no.:								<input type="checkbox"/> Remove
P505237								<input type="checkbox"/>
SD82009								<input type="checkbox"/>
SB16197								<input type="checkbox"/>
E453068								<input type="checkbox"/>
DT62984								<input checked="" type="checkbox"/> M
Instructions:								
<input type="checkbox"/> Not selectable, not changeable			<input type="checkbox"/> Not selected, changeable			<input checked="" type="checkbox"/> Selected, changeable		
<input checked="" type="checkbox"/> Selected, not changeable			<input checked="" type="checkbox"/> Selected, changeable			<input type="checkbox"/> OK <input type="checkbox"/> Cancel		

Figure 2.11

Select the sessions to be removed and tap 'OK'. The message below will display on the screen, as shown in figure 2.12.

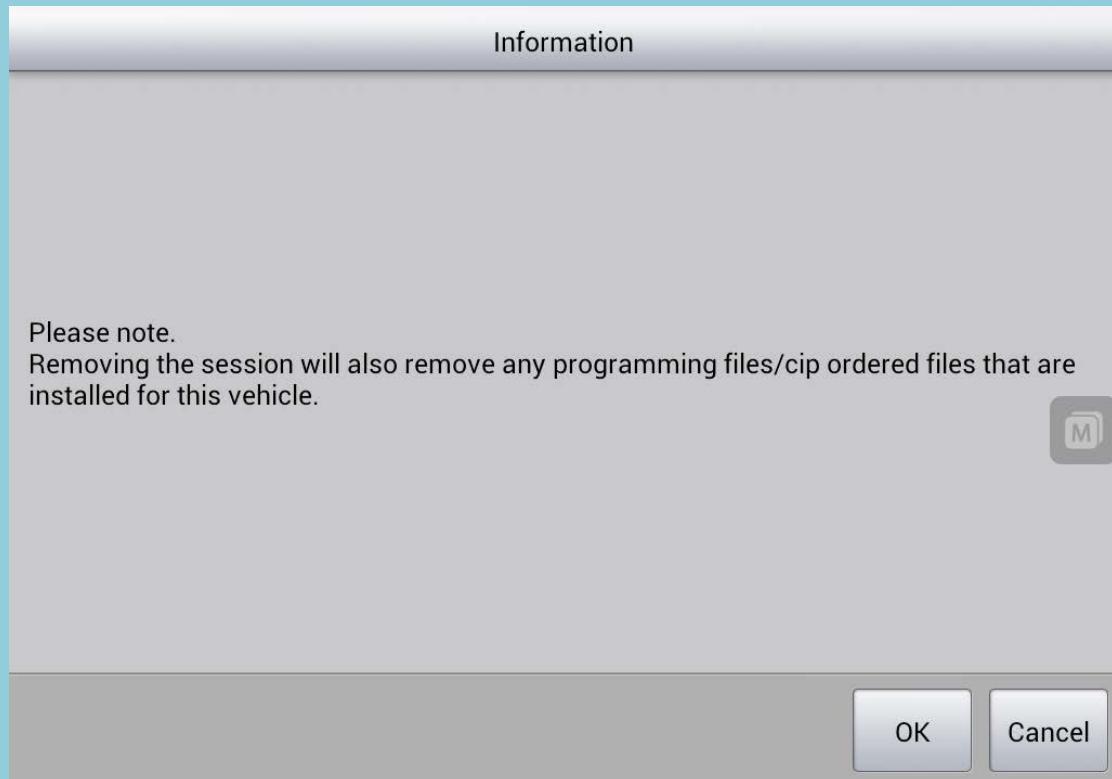


Figure 2.12

Tap 'OK' to remove the selected sessions. Then re-entering CIP is required.

### 2.3 CIP Main Interface

CIP Main Interface typically includes the following items, as shown in figure 2.13.

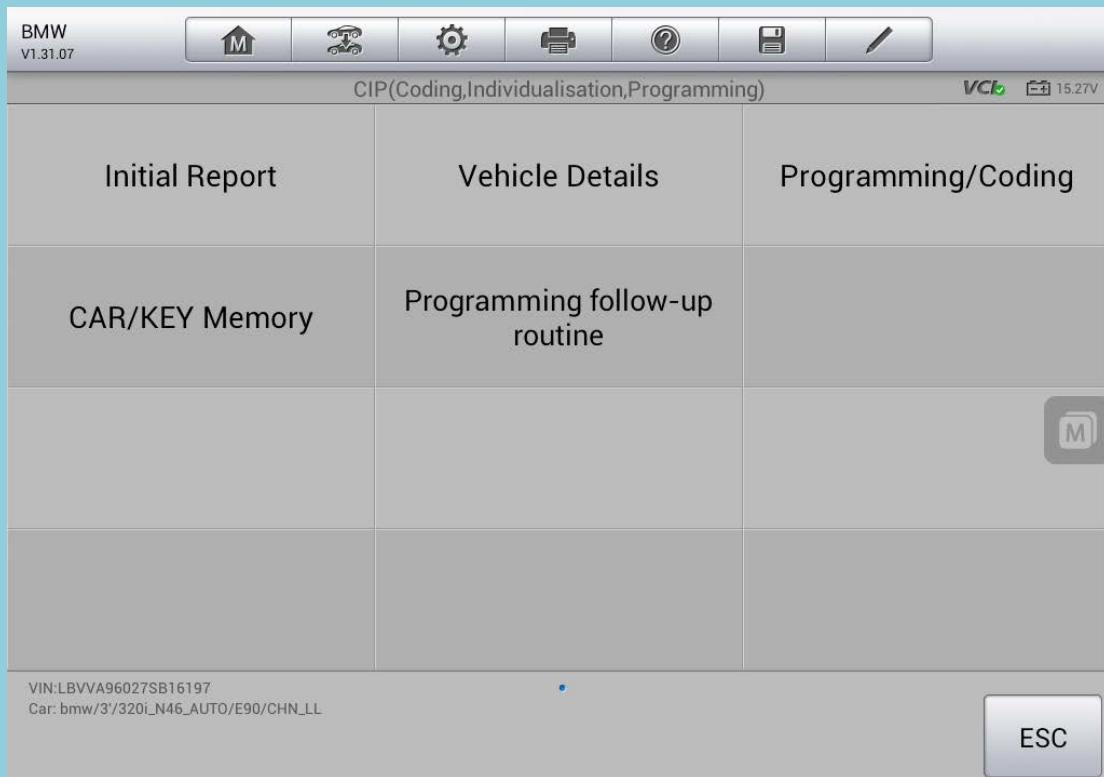


Figure 2.13

- **Initial Report**  
Displays the information of control units to be replaced or upgraded and the estimated upgrade time.
- **Vehicle Details**  
Displays vehicle configuration information.
- **Programming/Coding**  
Performs programming and coding. Please refer to **3. Programming/Coding** for additional information.
- **CAR/KEY Memory**  
Performs personalized setting.
- **Programming Follow-up Routine**  
Displays a list of special functions to be performed after programming and coding.

### 3. Programming/Coding

Programming/Coding interface typically includes the following items, as shown in figure 3.1.

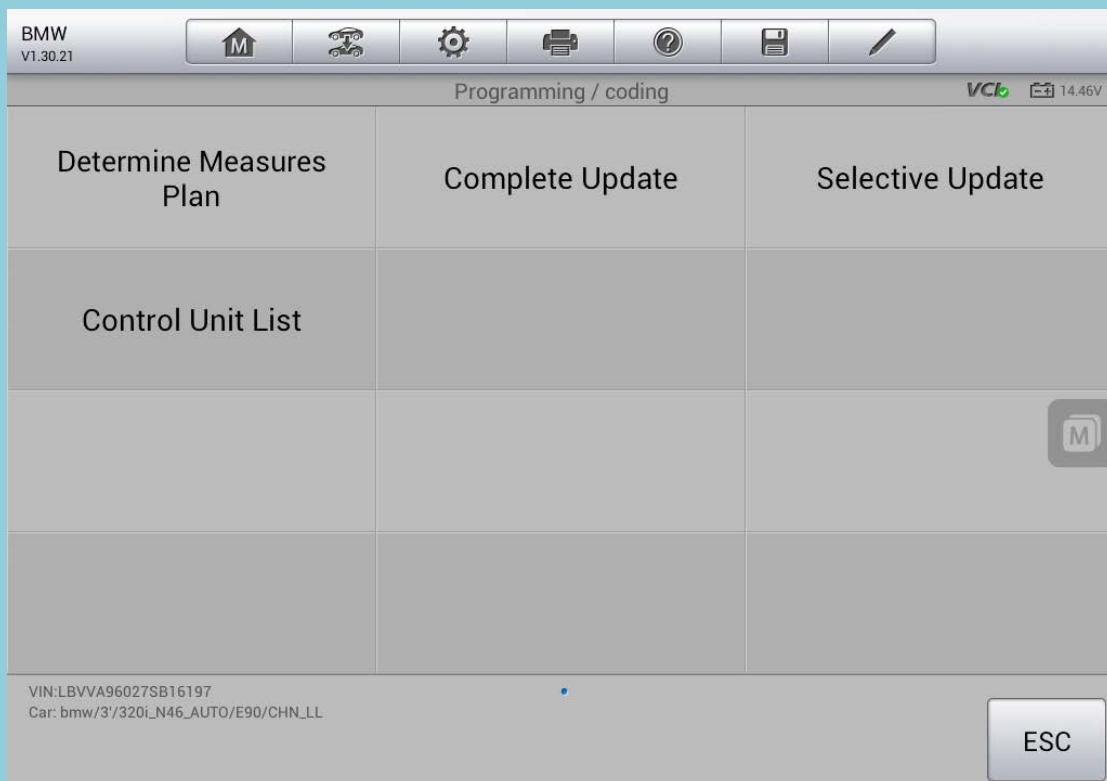


Figure 3.1

- **Determine Measures Plan**  
Lists the upgrade plan automatically calculated by MaxiSys Pro.  
Please refer to **3.1 Determine Measures Plan** for additional information.
- **Complete Update**  
All the ECUs available to programming/coding are checked by default.  
Please refer to **3.2 Complete Update** for additional information.
- **Selective Update**  
Manually selects the ECUs you want to perform programming/coding.  
Please refer to **3.3 Selective Update** for additional information.
- **Control Unit List**  
Displays all the control units, and you can perform diagnosis, programming,

coding, and special functions to the specific ECU. Please refer to **3.4 Control Unit List** for additional information.

### 3.1 Determine Measures Plan

Determine Measures Plan shows a list of tasks for the current vehicle set by MaxiSys Pro, as shown in figure 3.2. You can scroll through the list by sweeping your finger up and down to see more information.

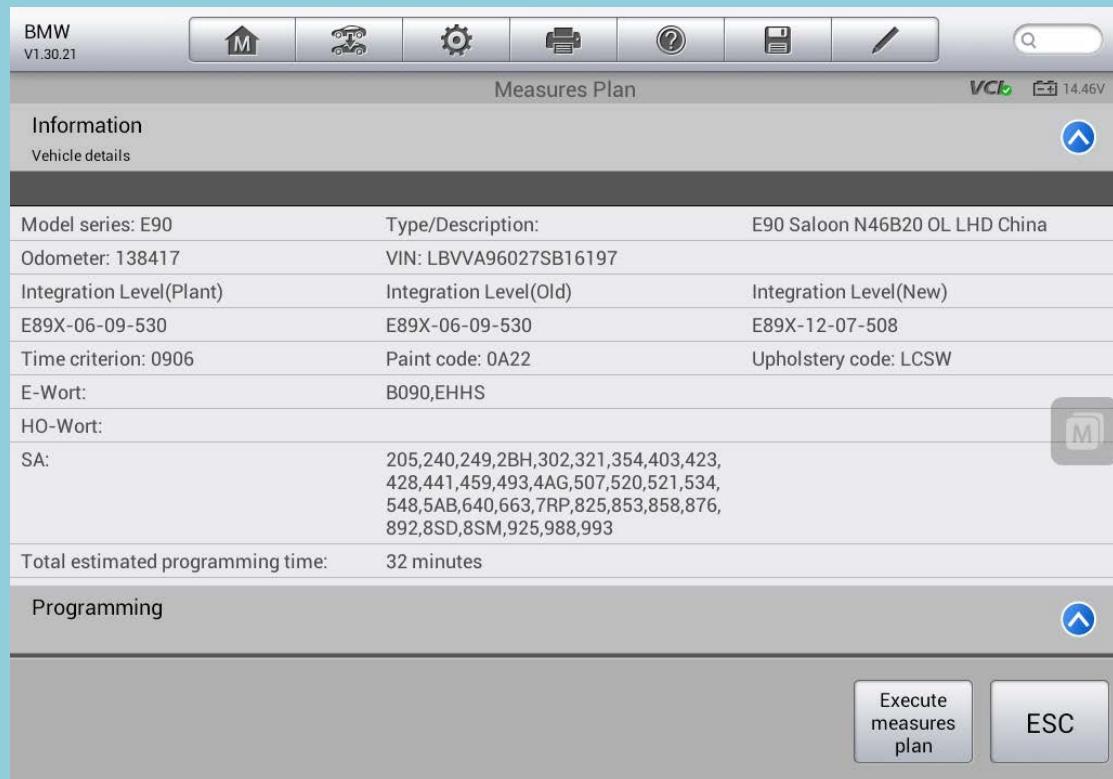


Figure 3.2

Tap 'Execute measures plan', and a prompt message of turning off engine and switching on ignition will pop up on the screen, as shown in figure 3.3.

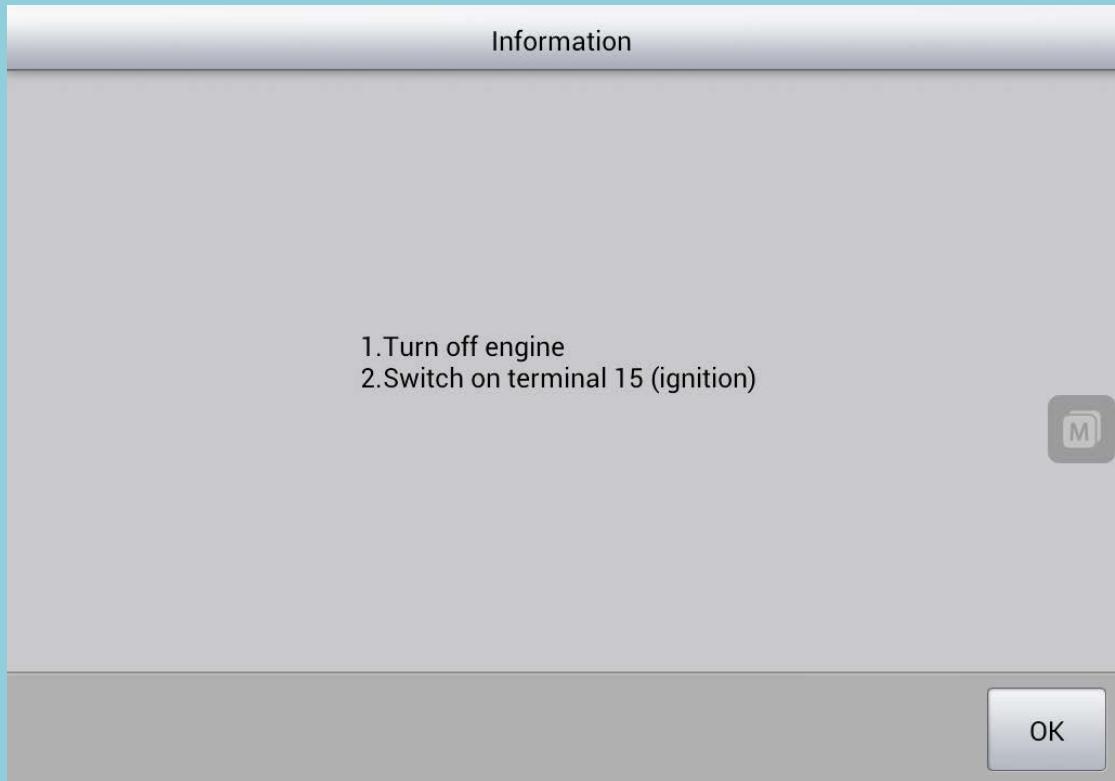


Figure 3.3

After confirming that engine is turned off and ignition is switched on, tap 'OK'. If MaxiSys Pro needs to be connected to the Internet to download configuration file, the following message will display.

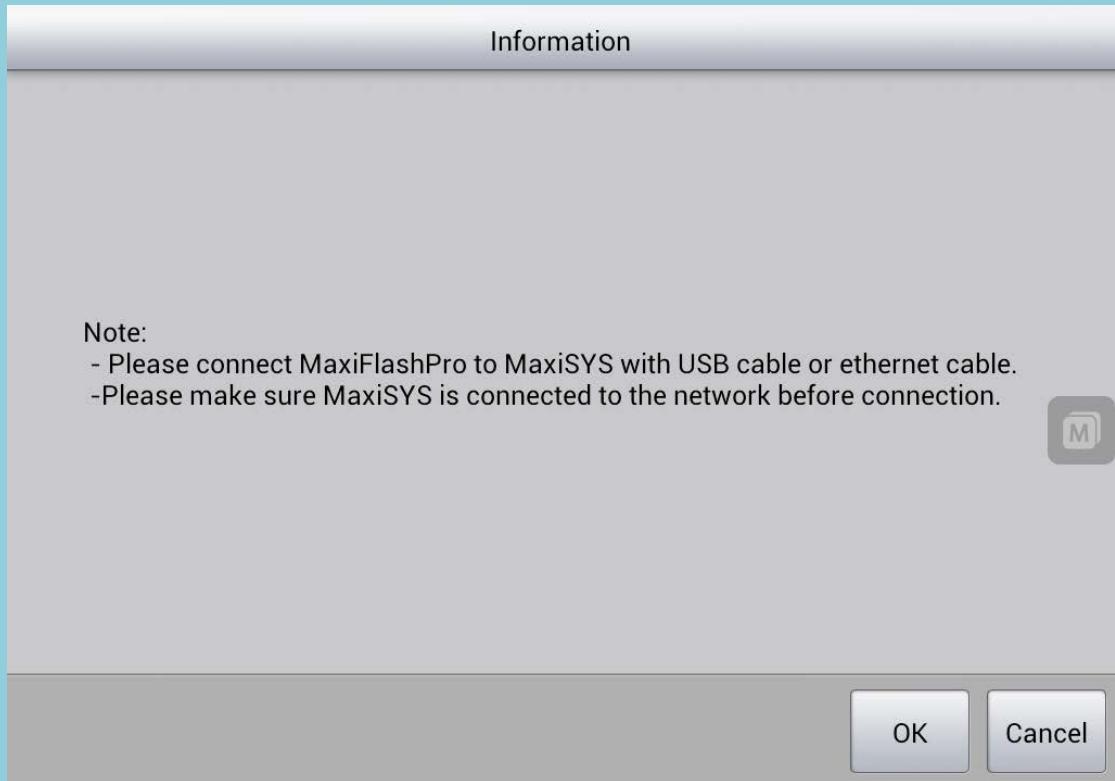


Figure 3.4

Disconnect MaxiSys Pro from vehicle (not a must), take MaxiSys Pro to the place with Internet connection, tap 'OK' after the network is connected, and then MaxiSys Pro can download configuration file from server, as shown in figure 3.5.

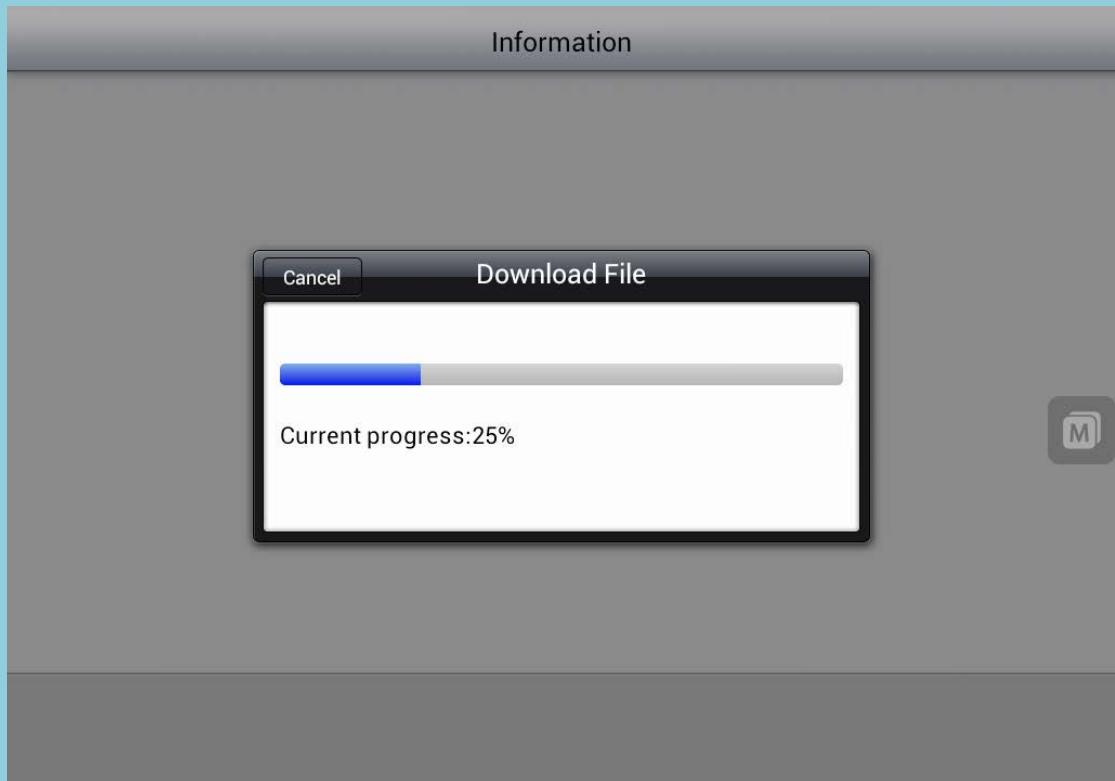


Figure 3.5

When download is complete, the following message will display.



Figure 3.6

Please check MaxiSys Pro is connected with vehicle first, and then tap 'OK' to execute the plan. If there are programming tasks, the control units in programming will show the progress in percentage, as shown in figure 3.7 and figure 3.8.

Action	Short name	Progress
Programm P	CAS	50%
Programm P	DWA	0%
Programm P	KLIMA	0%
Code C	DWA	
Code C	KLIMA	
Code C	CAS	
Initialisation by terminal change		

Figure 3.7

The screenshot shows the VCI software interface with the following table:

Action	Short name	Progress
Programm P	CAS	100%
Programm P	DWA	100%
Programm P	KLIMA	100%
Code C	DWA	coded
Code C	KLIMA	Coding...
Code C	CAS	
Initialisation by terminal change		

Figure 3.8

A prompt message of turning off ignition and removing the key from key slot will pop up when performing CAS programming, as shown in figure 3.9.

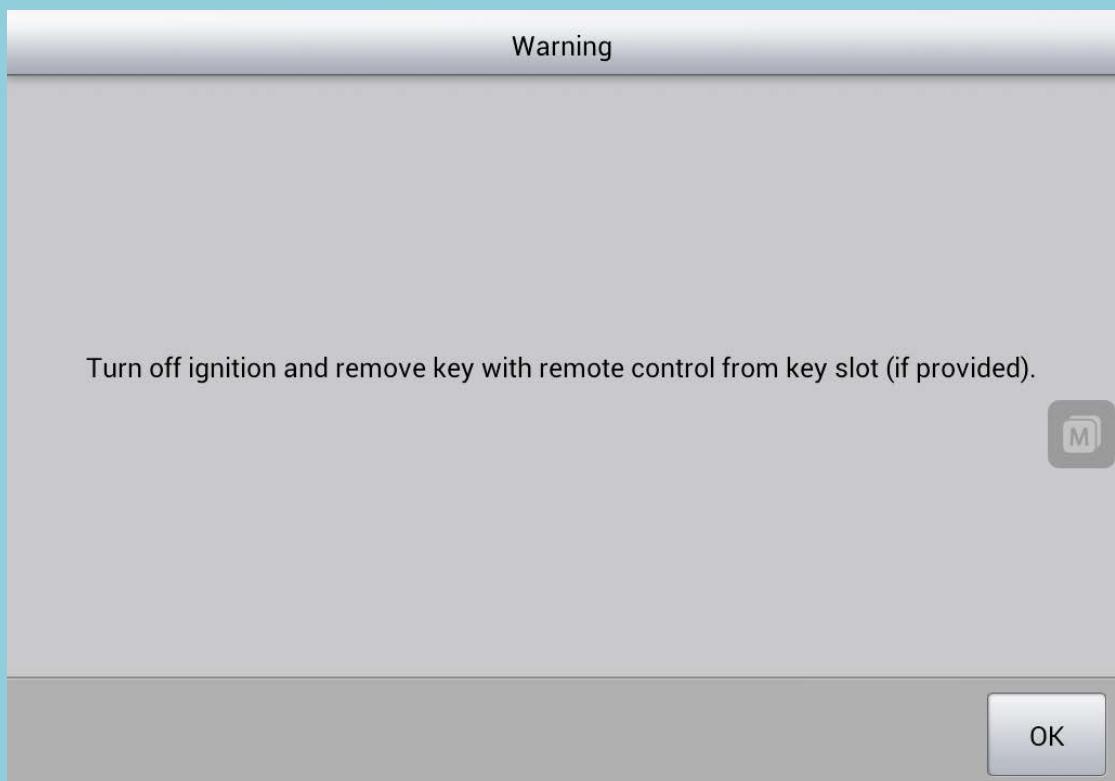


Figure 3.9

Turn off ignition and remove the key, and then tap 'OK' to start CAS programming.

After CAS programming is complete, switching on ignition is required, as shown in figure 3.10.

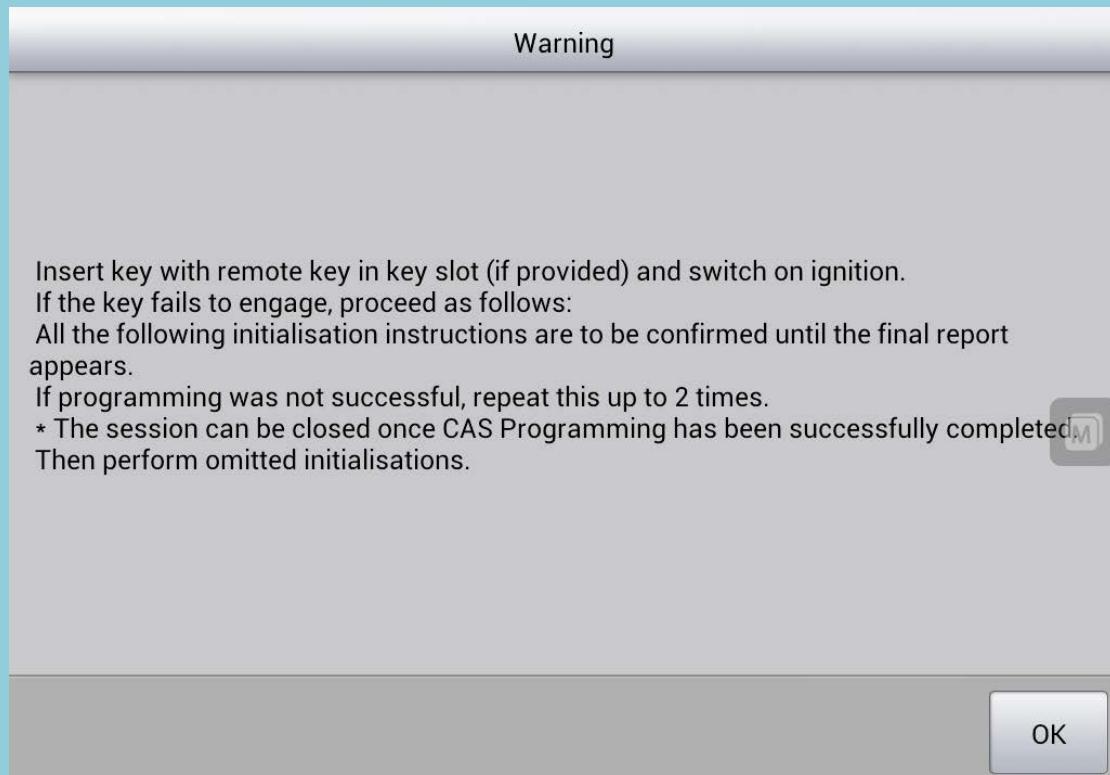


Figure 3.10

Switch on ignition, and tap 'OK' to complete CAS programming.

MaxiSys Pro will generate a final report after executing the plan. You can scroll through the list by sweeping your finger up and down to see more information, as shown in figure 3.11, figure 3.12 and figure 3.13.

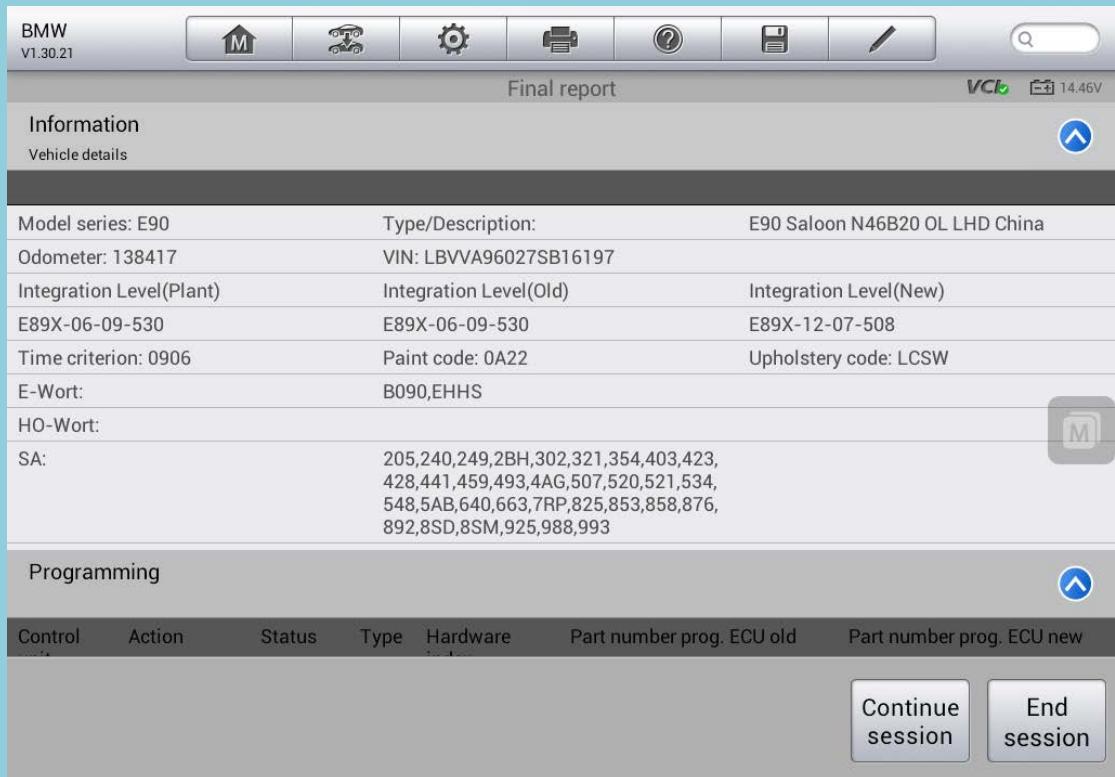


Figure 3.11

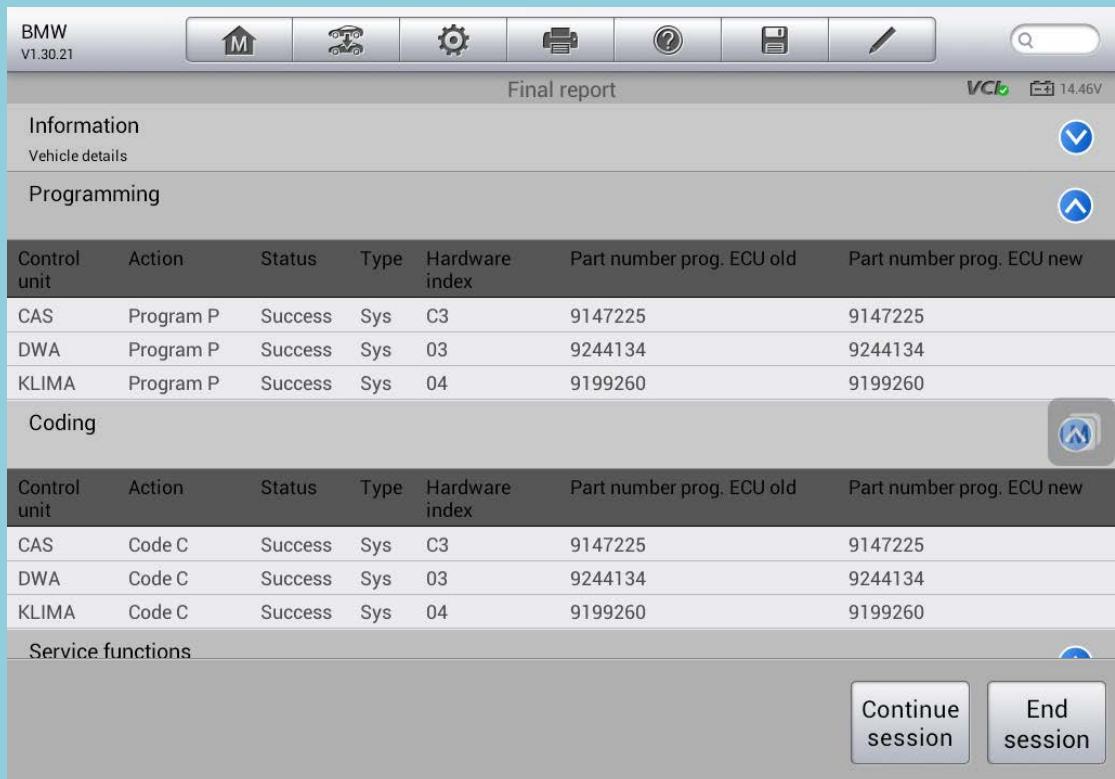


Figure 3.12

The screenshot shows the BMW MaxiSys Pro software interface. At the top, there's a toolbar with icons for Home, Tools, Settings, Print, Help, and a pen. The title bar says "Final report". Below the toolbar, there's a header with "REIMA" and "Programm" followed by some status indicators. The main area has a section titled "Coding" which contains a table with columns: Control unit, Action, Status, Type, Hardware index, Part number prog. ECU old, and Part number prog. ECU new. The table shows successful operations for CAS, DWA, and KLIMA. Below the coding section is another table for "Service functions" with columns: Action, Control unit, and Status. It lists several actions with their respective control units and statuses. At the bottom right of the report area, there are two buttons: "Continue session" and "End session".

Control unit	Action	Status	Type	Hardware index	Part number prog. ECU old	Part number prog. ECU new
CAS	Code C	Success	Sys	C3	9147225	9147225
DWA	Code C	Success	Sys	03	9244134	9244134
KLIMA	Code C	Success	Sys	04	9199260	9199260

Action	Control unit	Status
Read CKM settings		Success
Initialisation by terminal change		Success
Deactivate compressor running-in protection	KLIMA	Success
Update vehicle order		Success
Write CKM settings		Success
Update integration level		Success

Figure 3.13

The information after executing the plan is available in this report, including the status of a single task, which can be viewed in the Status column.

Tap 'End session' to exit CIP, or tap 'Continue session' to continue programming. After tapping 'Continue session', MaxiSys Pro will read configuration information from vehicle again and communicate with each control unit. It will take several minutes, which is based upon vehicle specifications.

### 3.2 Complete Update

Complete Update shows a list of control units, as shown in figure 3.14

Process Control Modules				VCI 15.22V
System Description	<input checked="" type="checkbox"/> Program	<input checked="" type="checkbox"/> Encode	<input type="checkbox"/> Replace	
CAS Car access system	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
JBE Junction-box electronics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
RAD2-GW Gateway				
Airbag-MRS Multiple Restraint system	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Engine-DME Motor Electronics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
EGS 6HPTU transmission control	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
ABS-DSC Dynamic Stability Control	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
DWA anti-theft alarm system	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Instructions:

<input type="checkbox"/>	Not selectable, not changeable	<input type="checkbox"/>	Not selected, changeable
<input checked="" type="checkbox"/>	Selected, not changeable	<input checked="" type="checkbox"/>	Selected, changeable

Figure 3.14

All the control units available to programming or coding are checked by default. You can manually select the corresponding items of each control unit to make any change. If the selected control unit must be programming or coding as part of a group, MaxiSys Pro will automatically select the related control units and display their names, as shown in figure 3.15.

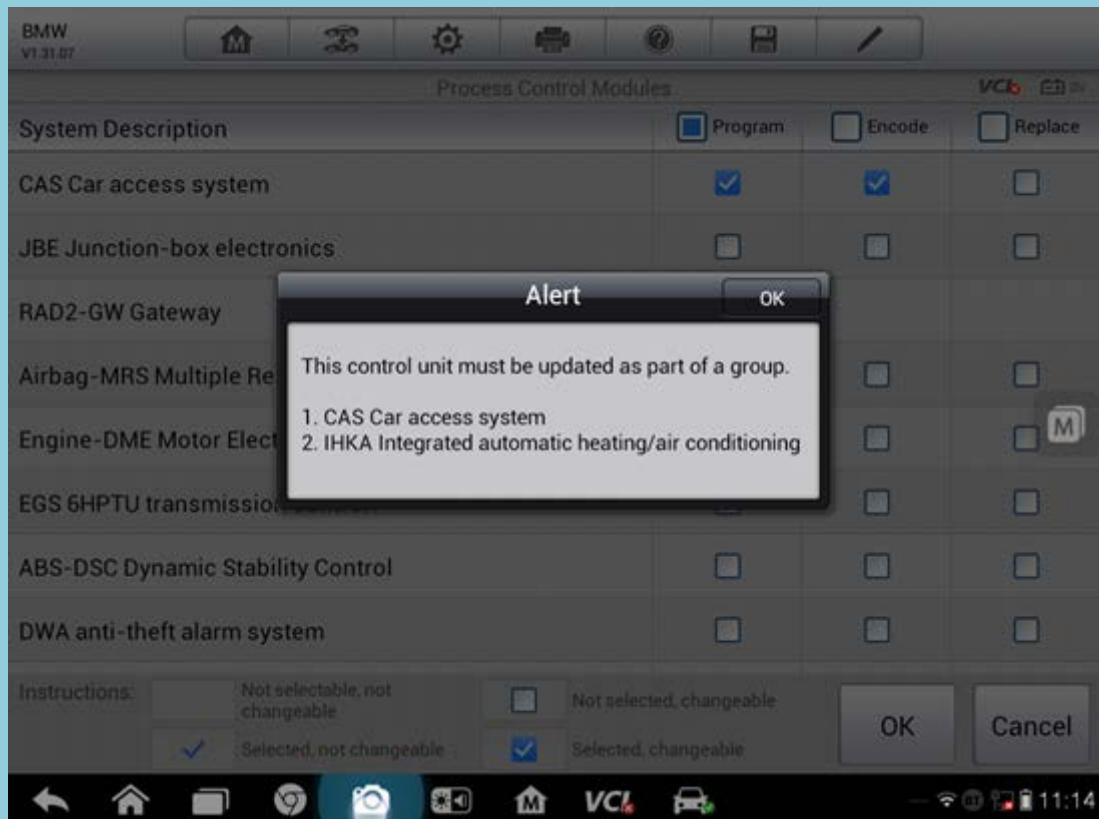


Figure 3.15

Some items may not be selectable, and the possible causes are as below,

- Programming or coding is not available for the control unit
- The control unit has error or needs to be replaced. Please refer to **Initial Report** in CIP Main Interface for detailed information.

Tap 'OK' after making your selection and MaxiSys Pro will determine a plan. Please refer to **3.1 Determine Measures Plan** for additional information.

### 3.3 Selective Update

Please refer to **3.2 Complete Update** for additional information about Selective Update. Programming and coding items only for control units needing to be updated are selected by default for Selective Update, which is the difference from Complete

Update.

### 3.4 Control Unit List

Control Unit List displays all the control units, as shown in figure 3.16. You can scroll through the list by sweeping your finger left and right to see more information.

The screenshot shows a software interface titled "Control Unit List". At the top, there is a toolbar with icons for home, search, settings, print, help, and edit. The title bar also displays "VCI 14.46V". Below the toolbar is a table with four columns. The first three columns represent the control units, and the fourth column is a small icon. The rows contain the following data:

CAS Car access system	JBE Junction-box electronics	RAD2-GW Gateway	
Airbag-MRS Multiple Restraint system	Engine-DME Motor Electronics	EGS 6HPTU transmission control	
ABS-DSC Dynamic Stability Control	DWA anti-theft alarm system	FZD Function centre,roof	
PDC Park Distance Control	SMFA Seat module, driver	FRM Footwell module	

VIN:LBVVA96027SB16197  
Car: bmw/3/320i\_N46\_AUTO/E90/CHN\_LL

ESC

Figure 3.16

Tap the corresponding control unit to view the diagnostic information, control unit information, and the last programming information; to perform programming or coding; or to perform some related special functions.

BMW  
V1.31.07

ABS-DSC Dynamic Stability Control		
Diagnosis	Control unit information	Last Programming Information
Coding	Program	Initialisation, RDC warning
Initialisation of DSC unit for 4-cylinder engines	Adjustment of transverse acceleration sensor without active steering	Adjustment, steering angle sensor

VIN:LBVVA96027SB16197  
Car: bmw/3/320i\_N46\_AUTO/E90/CHN\_LL

ESC

Figure 3.17