



professional



BASIC USER GUIDE

METSIMPRO



www.metsimpro.com



professional

WELCOME TO METSIM PRO.

Congratulations on choosing METSIM PRO. The more familiar you are with the device,
the more professional you will be able to use ECU repair.

That's why we ask you to read this user guide before using the device.

Also, use the built-in user guide available on the device.

This guide contains important information on how to use the device to take full advantage of its advanced features.

The printed user manual provided is current as of the date of manufacture at the factory.

You can find more information in other METSIM PRO videos. We wish you a pleasant and safe use.



www.metsimpro.com

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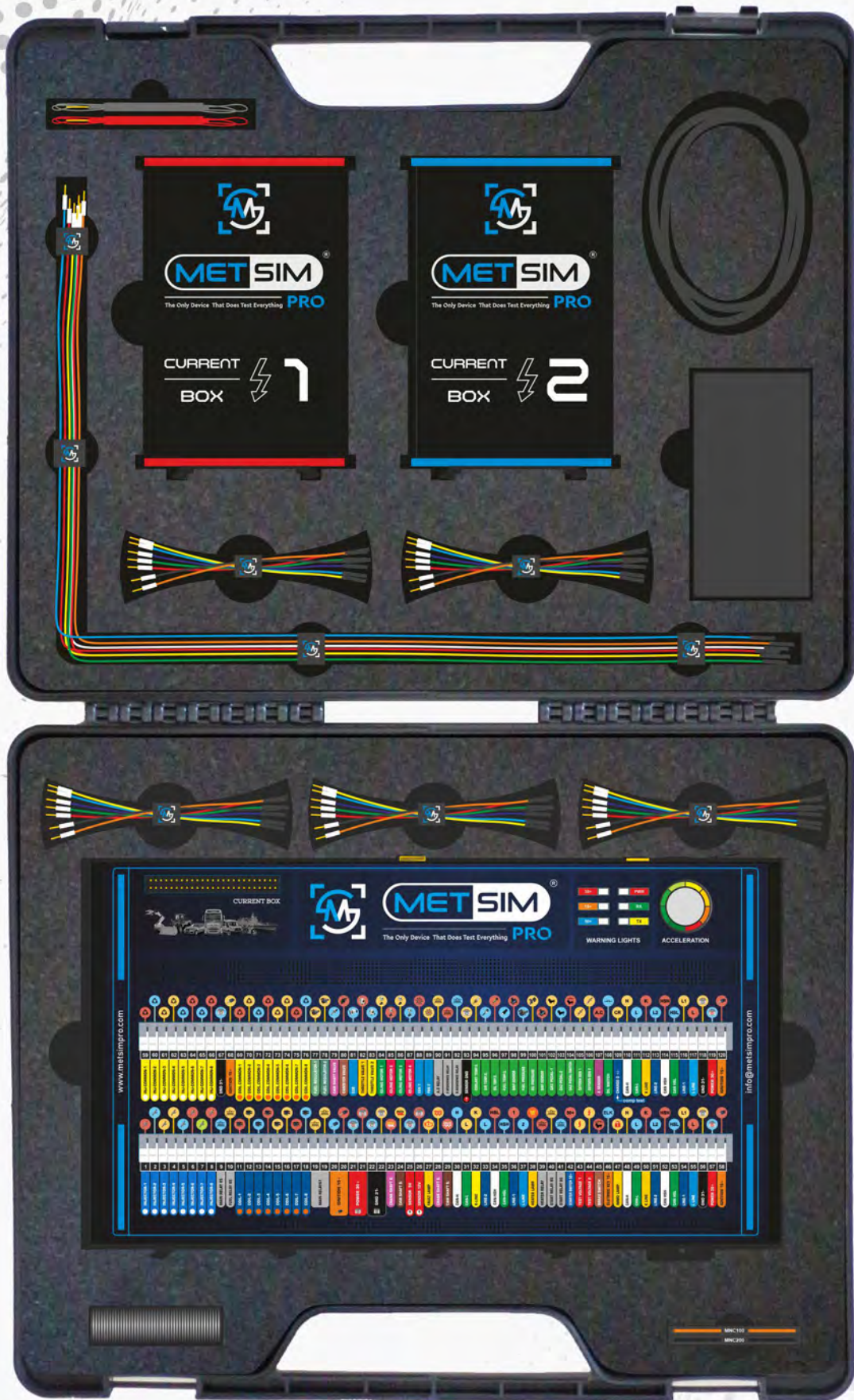
professional



The contents of the bag



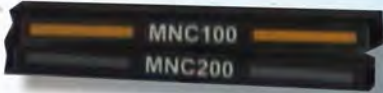
www.metsimpro.com



The items contained in the bag are as follows

1

MetsimPro Device



Part developed for use on petrol vehicles using the Mnc 100, Mnc 200 pin connection, with the aim of reducing the use of cables, with A and B connection sockets.

2

3

Interconnect cable used for injector 1, 2 and 3 power boxes.



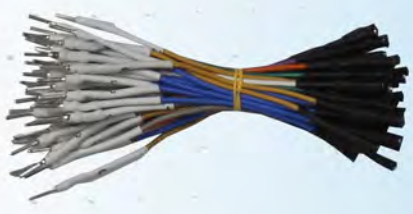
Pin group A used to establish the connection between the device and the ECU.

4

The items in the bag are as follows:

5

Pin group B used to establish the connection between the device and the ECU.



Pin group C used to establish the connection between the device and the ECU.

6

7

The X extension pin group used to establish the connection between the device and the ECU.



A group of Y pins used to establish the connection between the device and the ECU in different situations.

8

The items in the bag are as follows:

9

Pin group D used to establish the connection between the device and the ECU.



12V power adapter for the device.

10

11

Two probes used to measure ECU voltage



A test probe used for component testing operations

12

The items in the bag are as follows:

13

Pin group E used to establish the connection between the Metsimpro device and the ECU.



Socket to connect the power supply to adjust the battery supply voltage for ECUs with different values

14

15

USB cable used to establish the connection between the computer and the Metsim Pro device.



No. 1 power box acting as an injector

16

■ The items in the bag are as follows:

17

Power box n°2 acting as an injector.





BASIC INSTALLATION



BASIC INSTALLATION

Equipment Needed



METSIMPRO device

1



Minimum System Requirements ;

Processor- 4th Gen Intel Core i5
RAM- 4 GB RAM
Screen- 1920/1080

2



USB Connection Cable

3



12v Adapter

4



Power supply Cable

5

BASIC INSTALLATION

Installation





professional



ACTIVATION AND ACCOUNT CREATION



www.metsimpro.com

ACTIVATION AND ACCOUNT CREATION

1

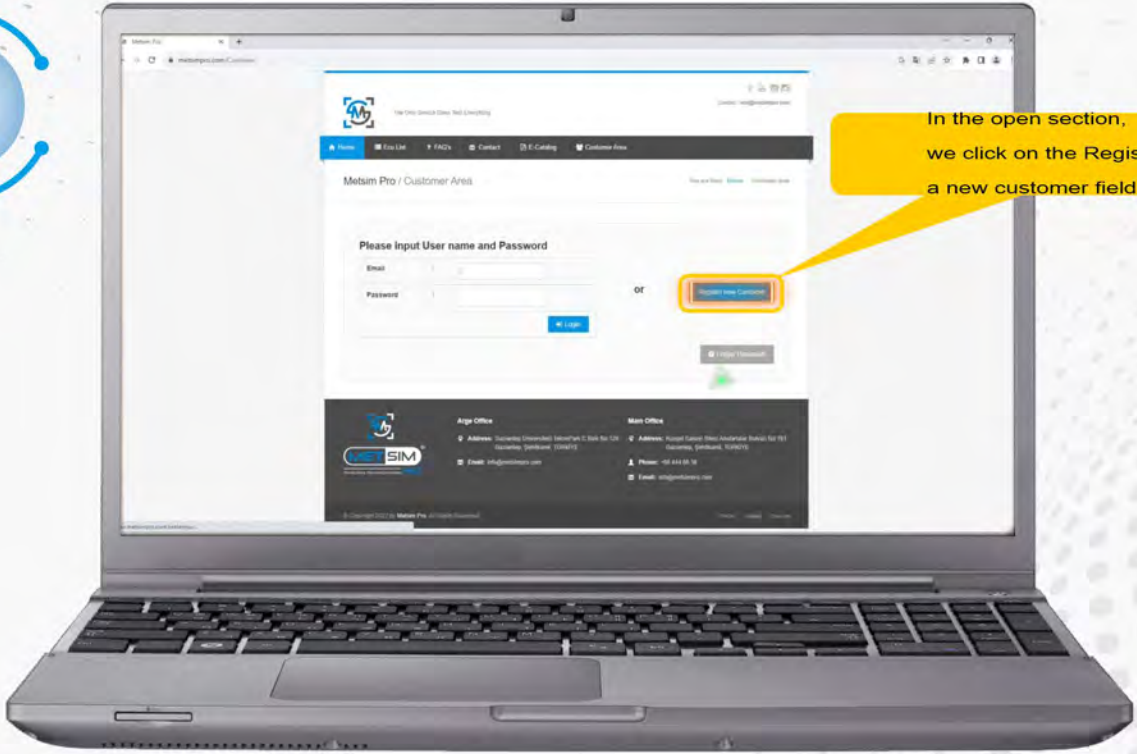
REGISTRATION & ACTIVATION
Go to the www.metsimpro.com

Click on the "customer area" section to create a new account.

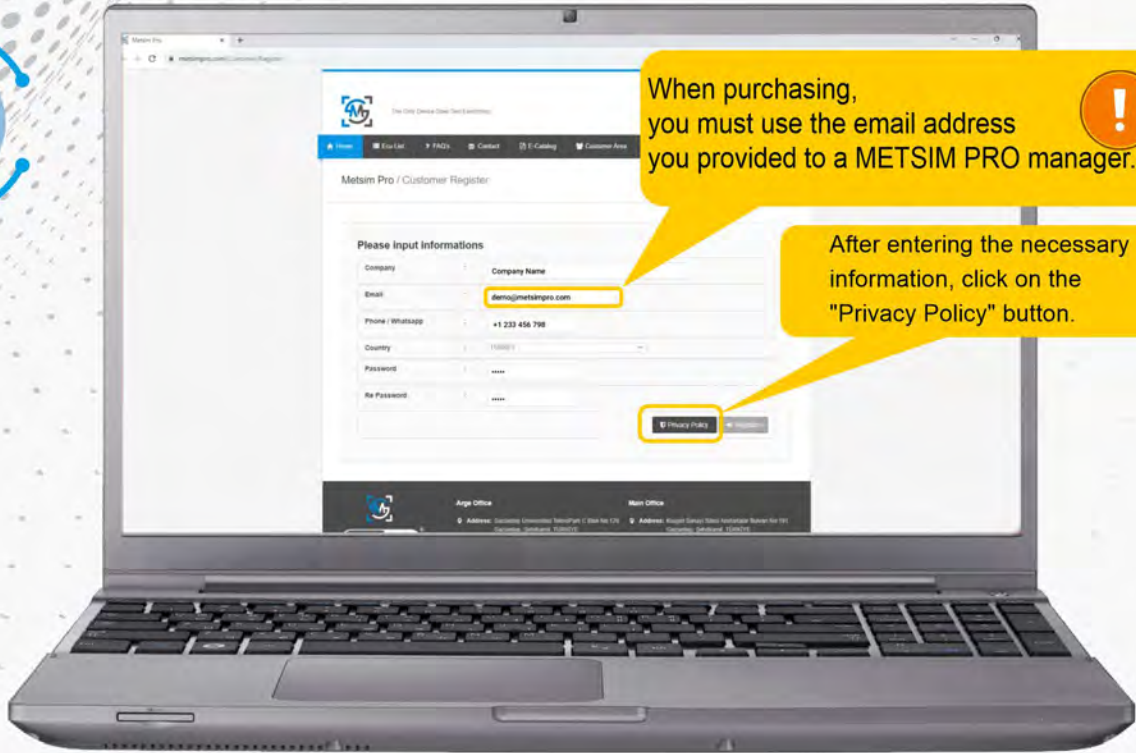


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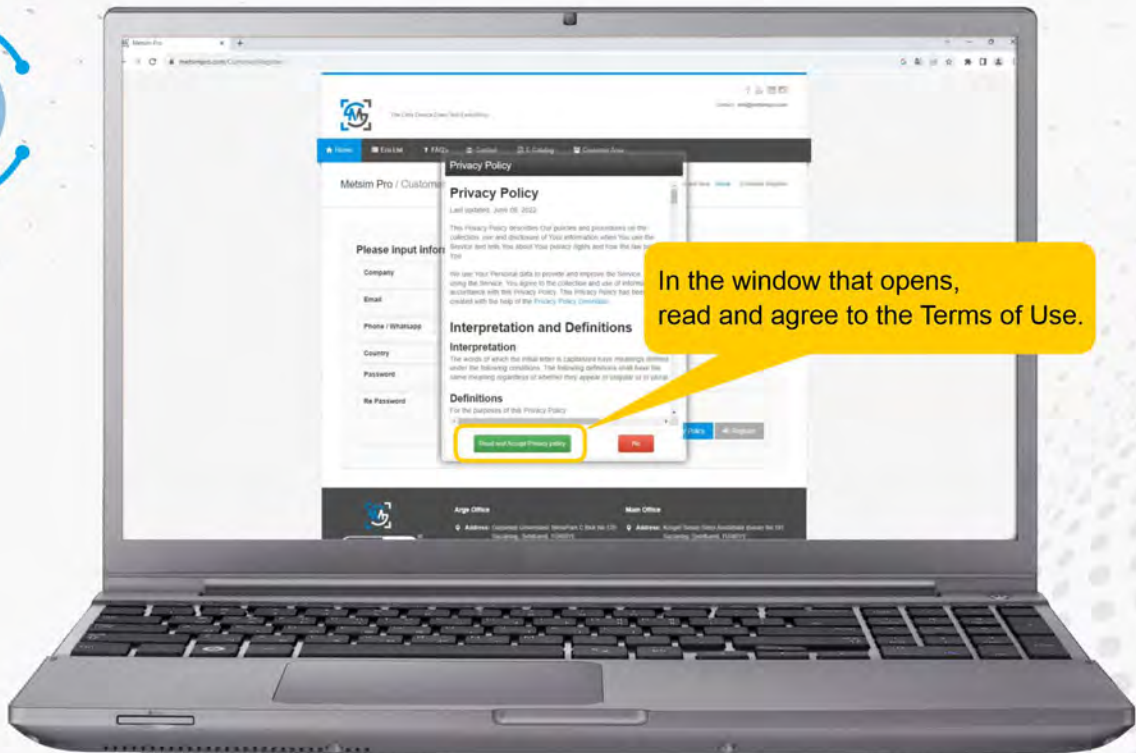
In the open section, we click on the Register a new customer field.



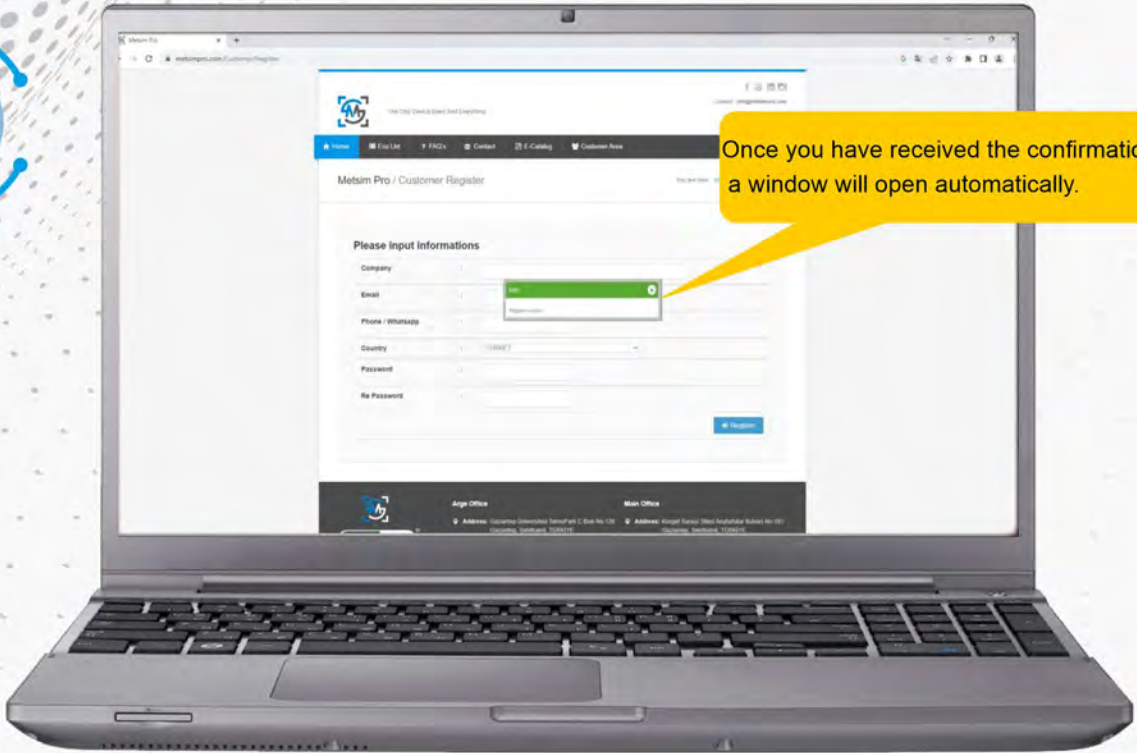
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4

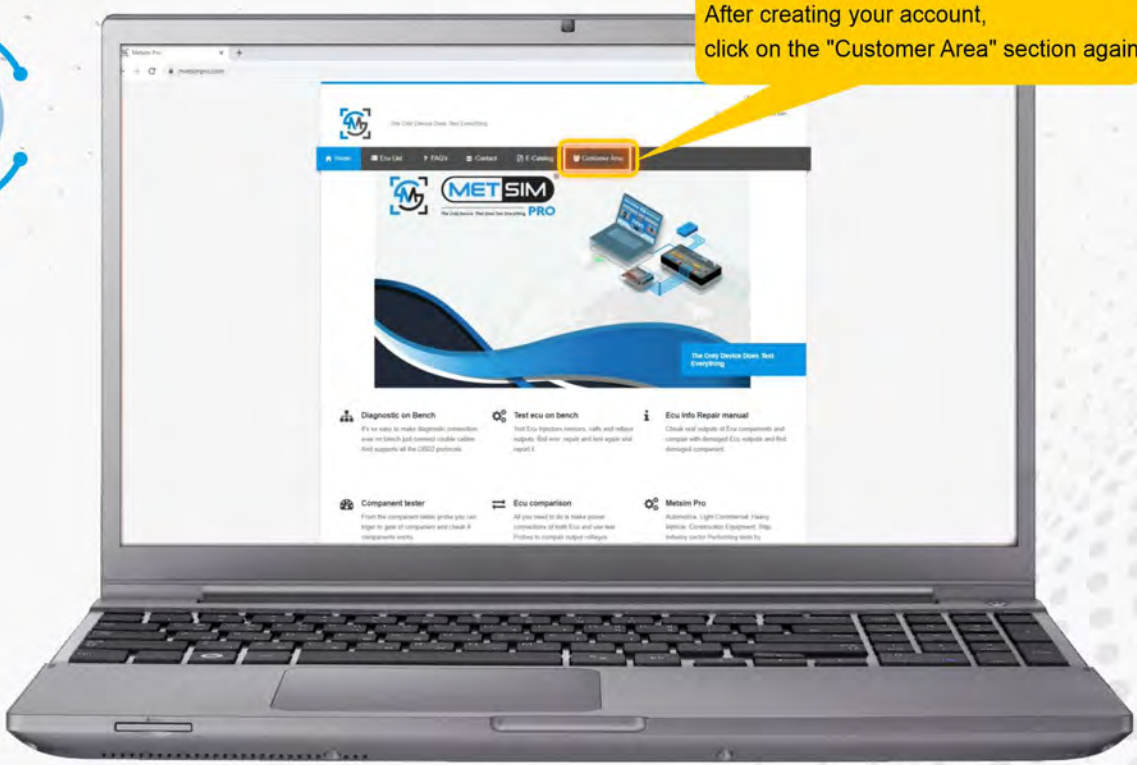


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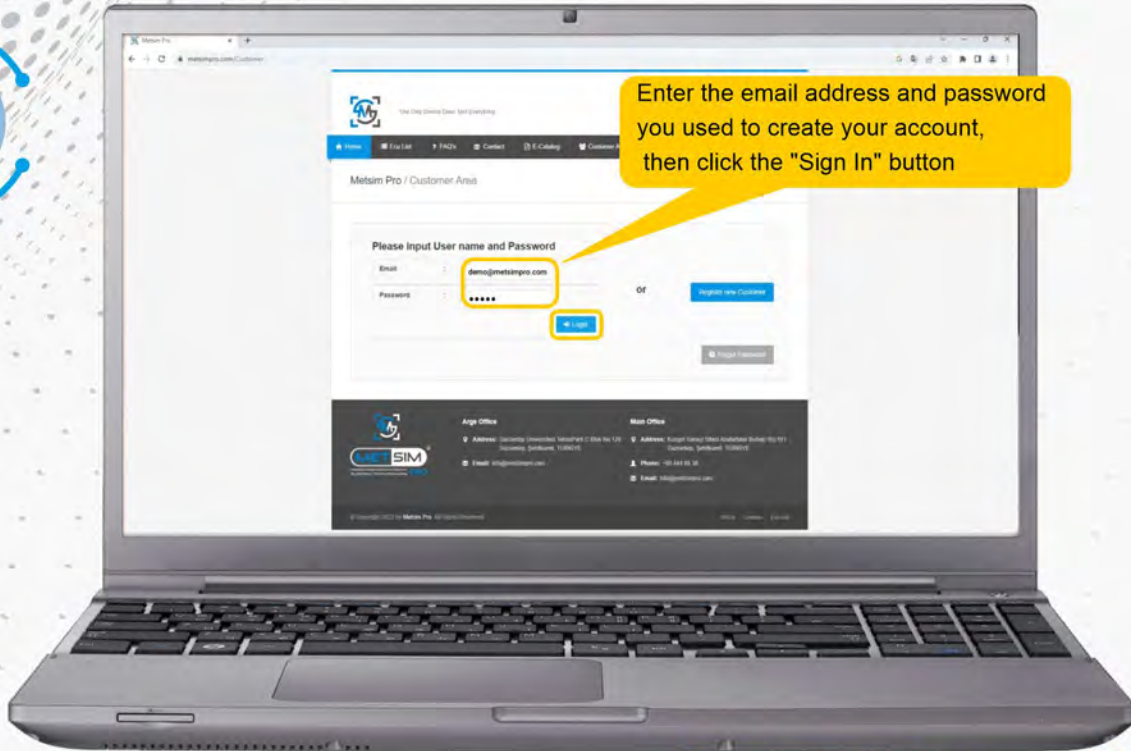
Once you have received the confirmation, a window will open automatically.

6

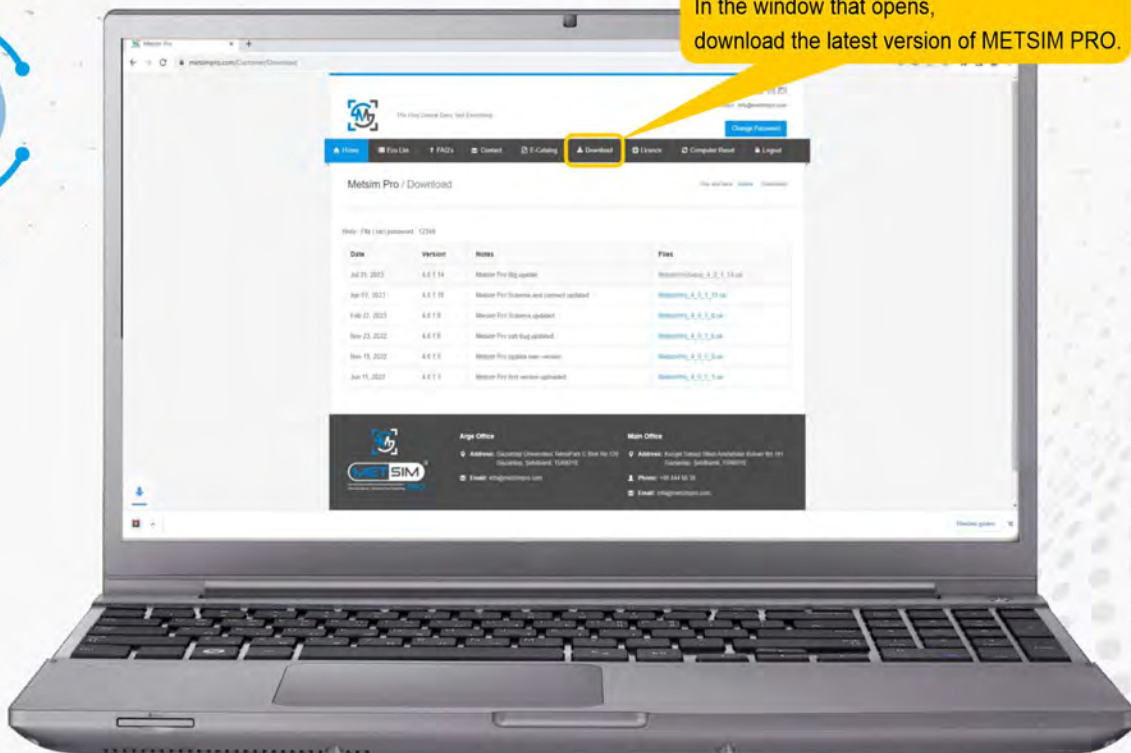


After creating your account, click on the "Customer Area" section again.

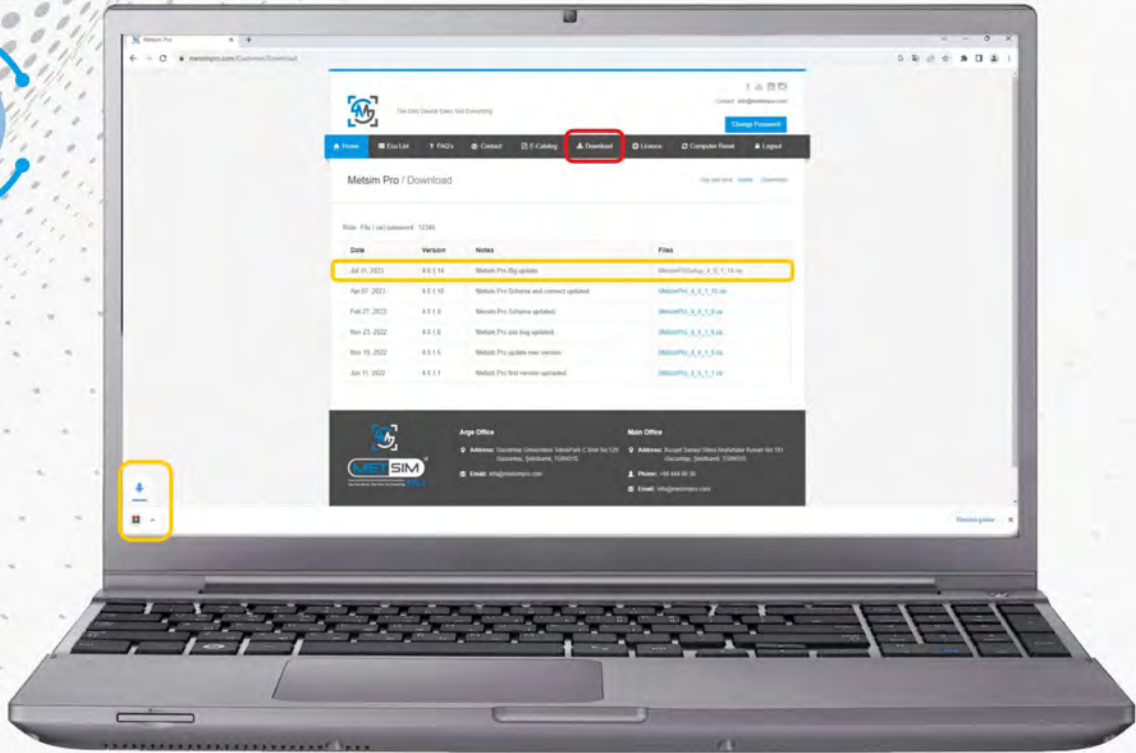
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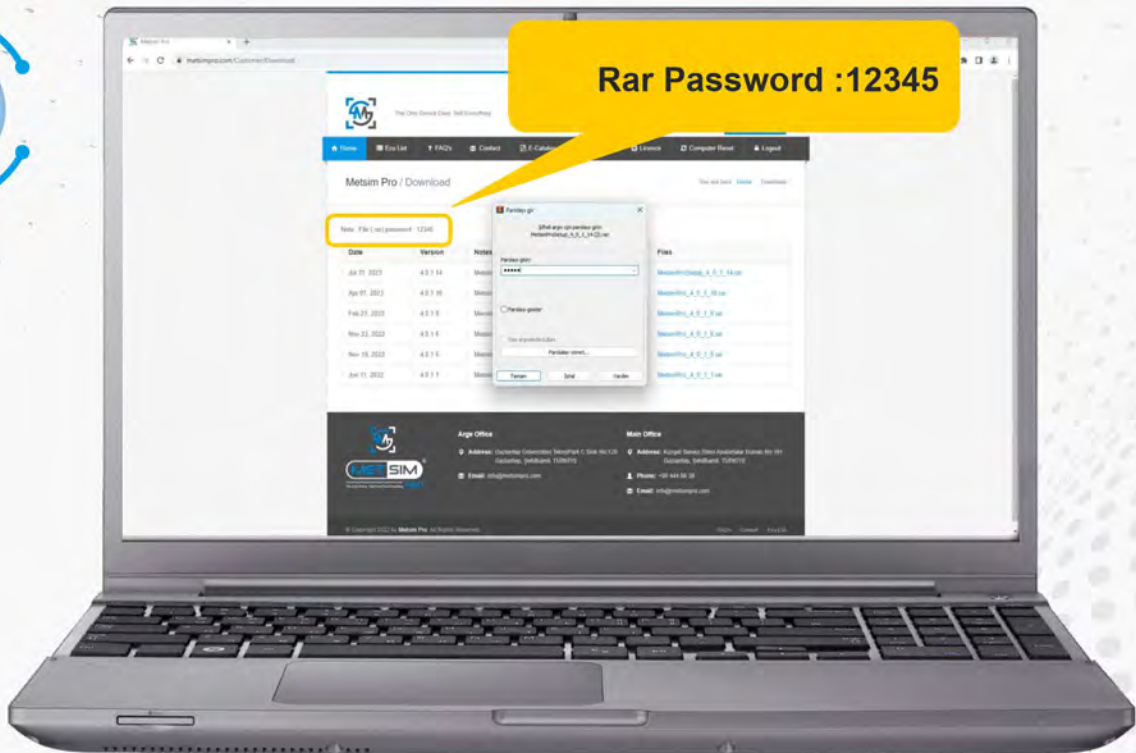
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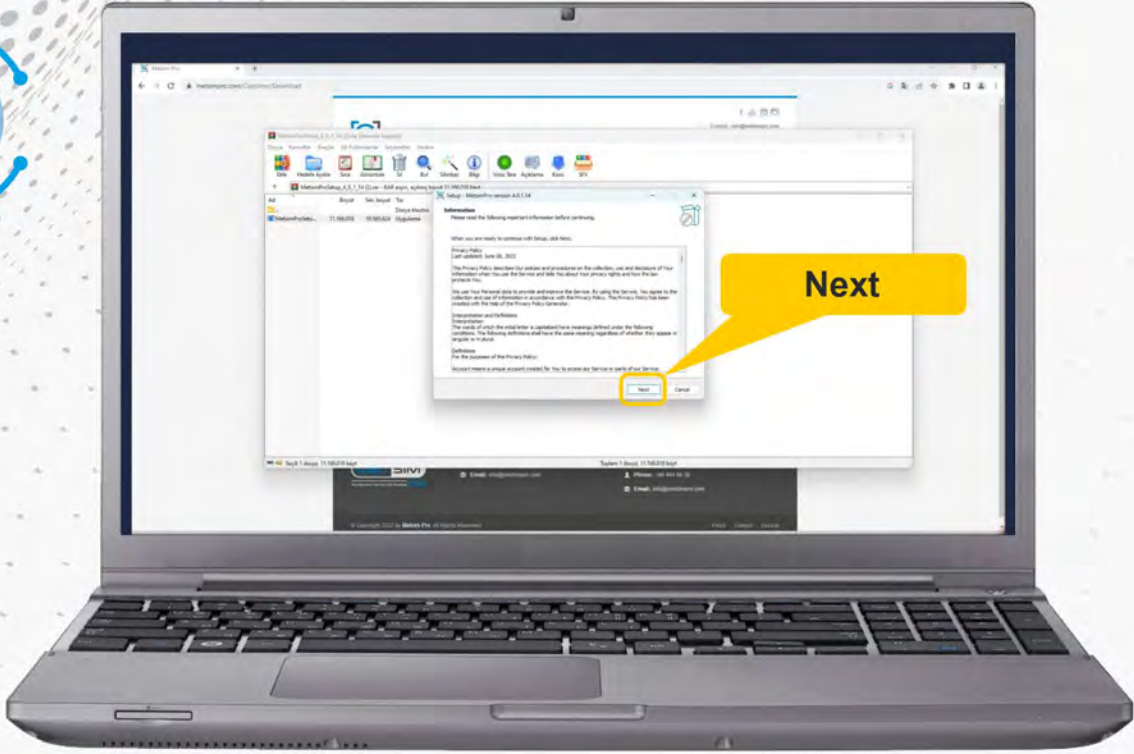
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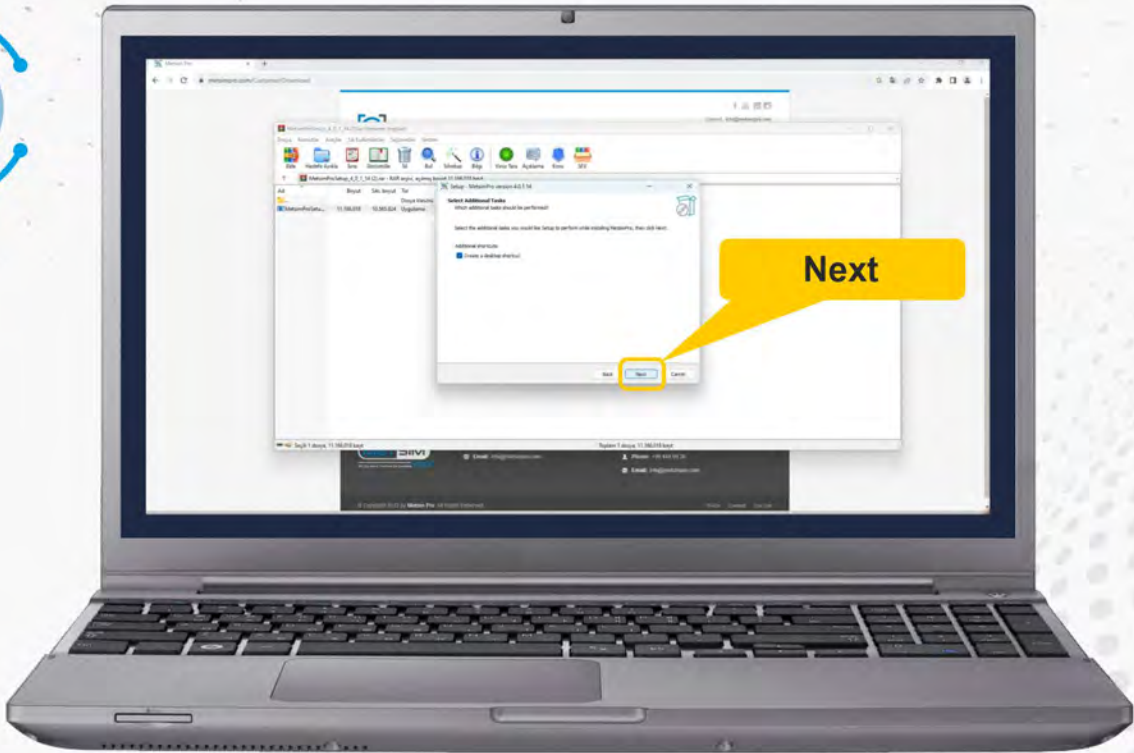
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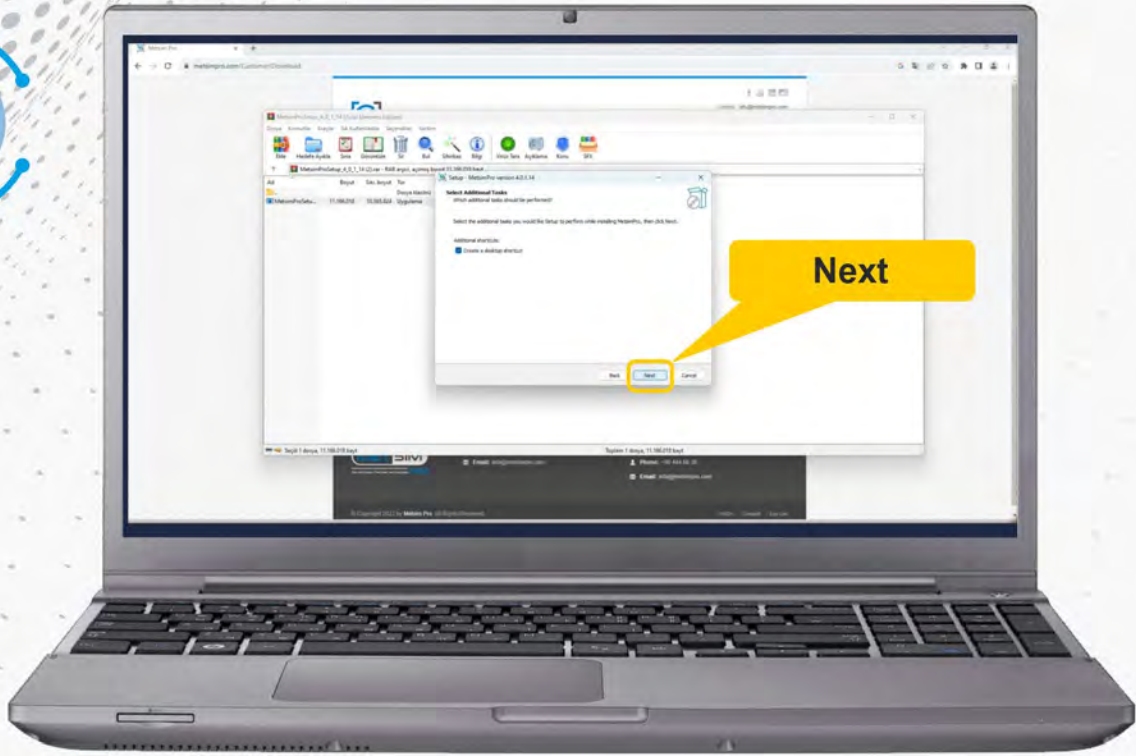
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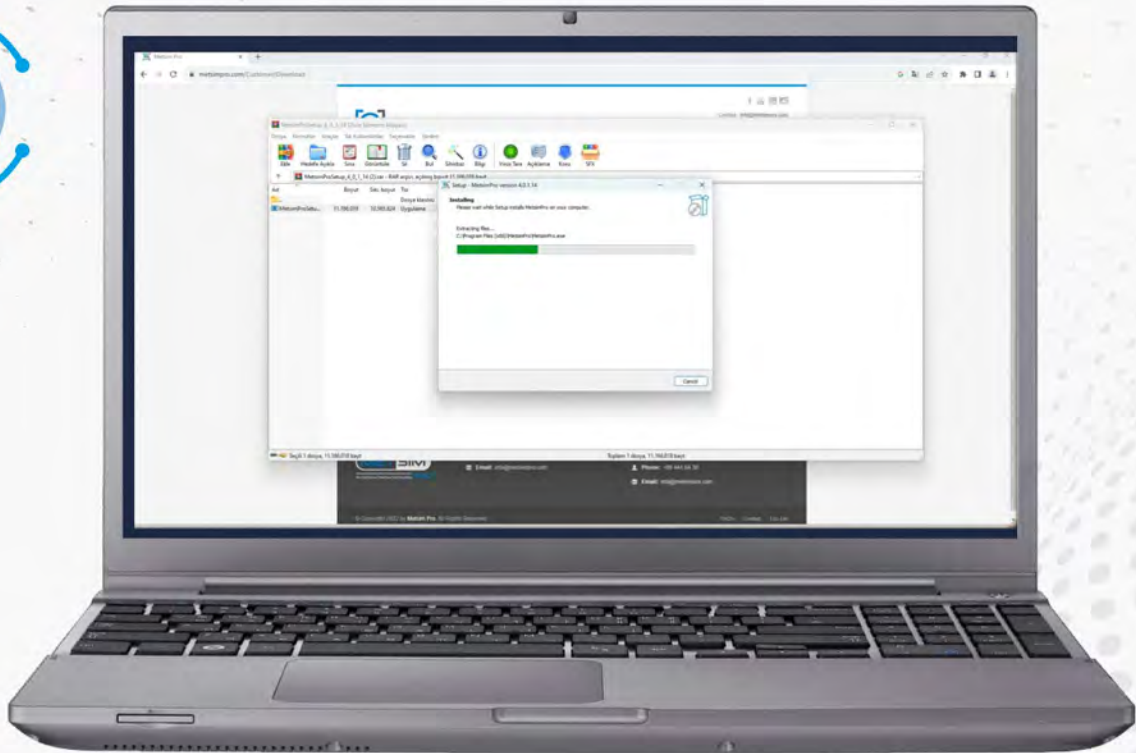
12



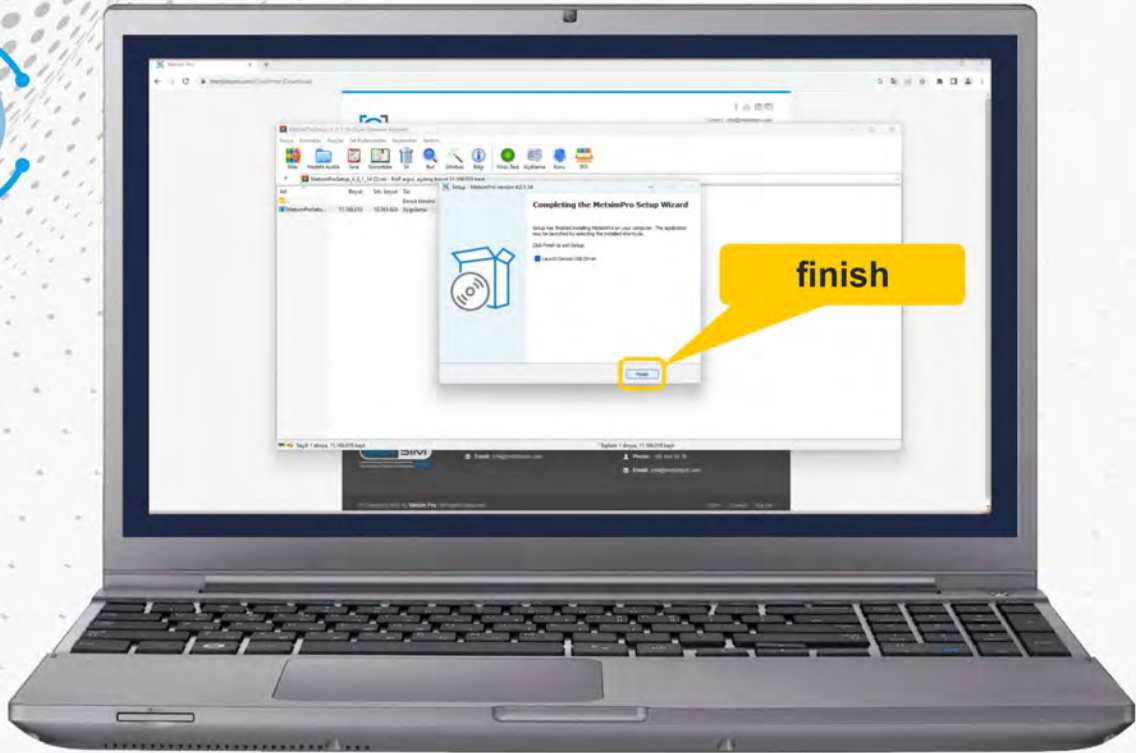
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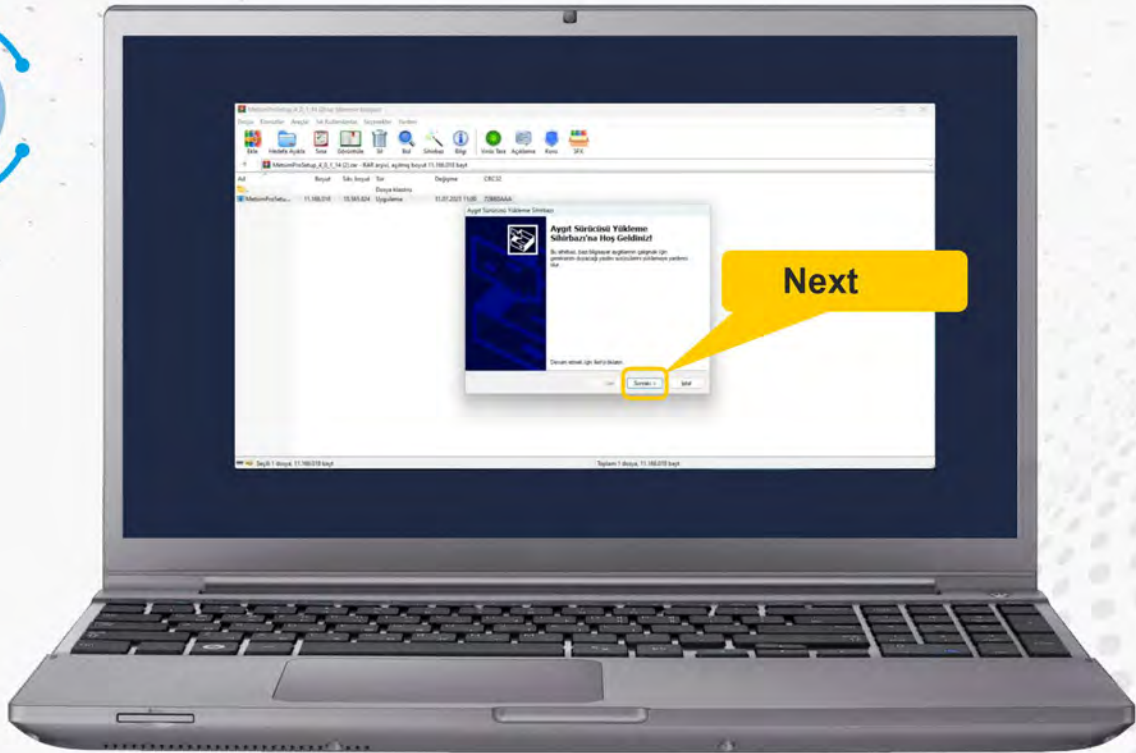
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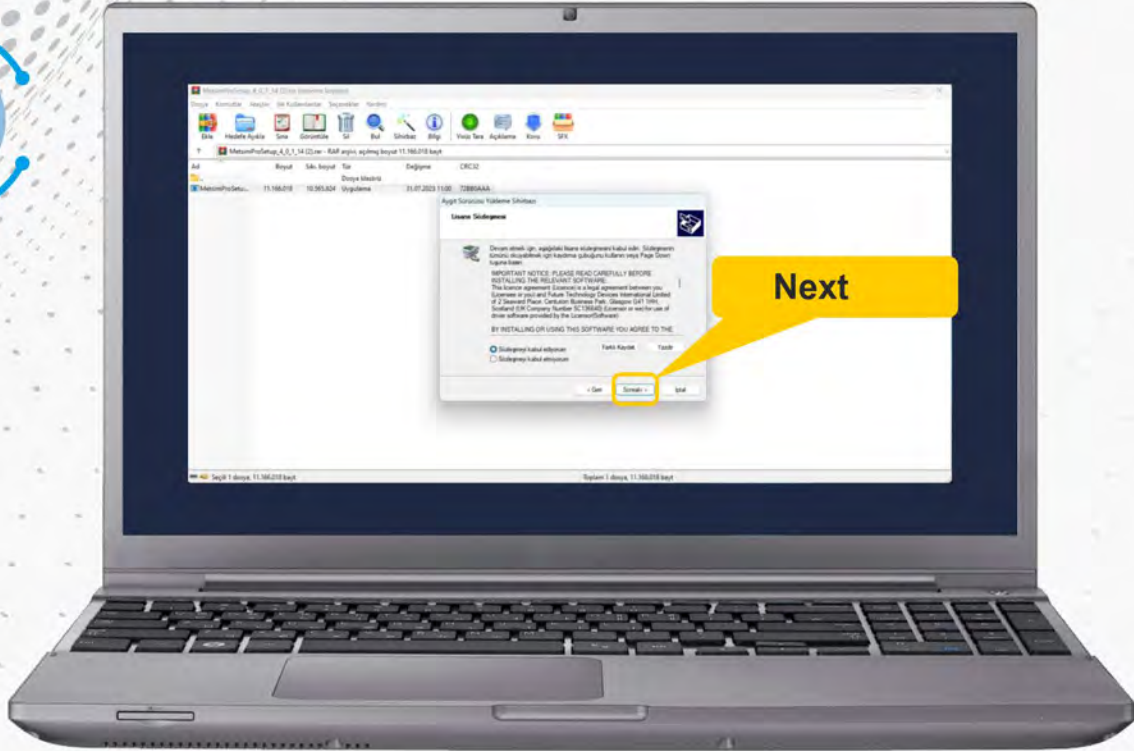
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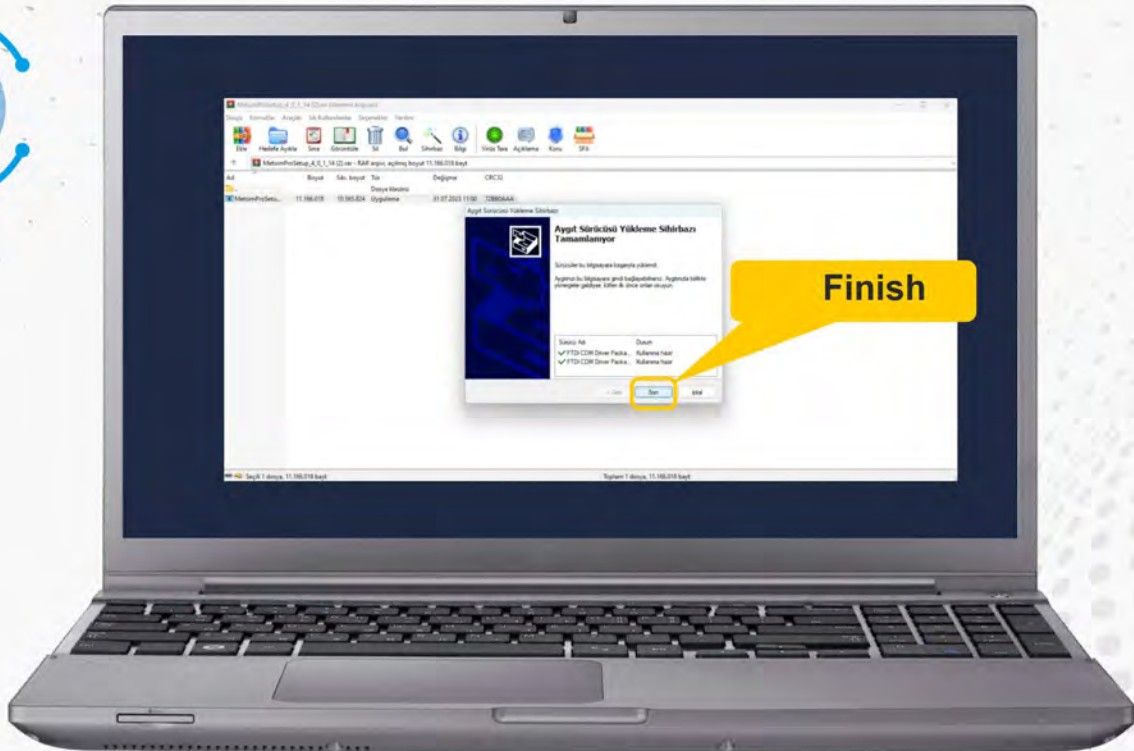
16



17



18





ACCESS TO THE PROGRAM



ACCESS TO THE PROGRAM

Interface Introduction

19

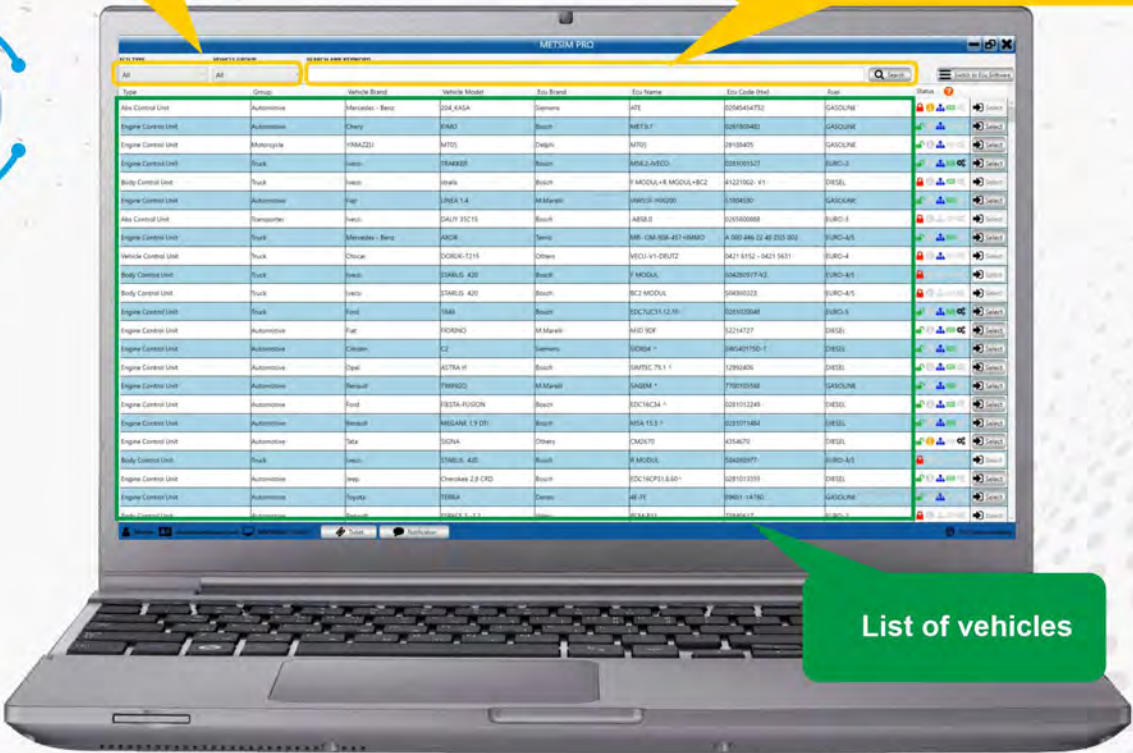


Log in with the email and password created.

Vehicle Classification Filter.

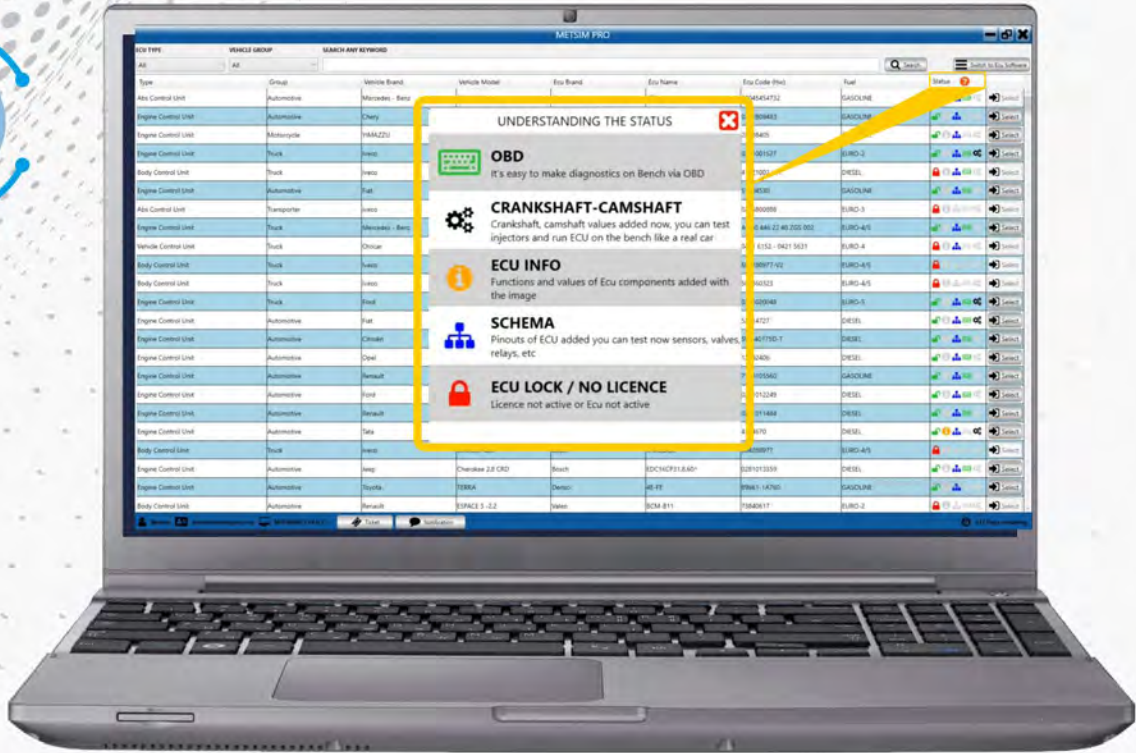
Search bar to find the ECU to test.

20

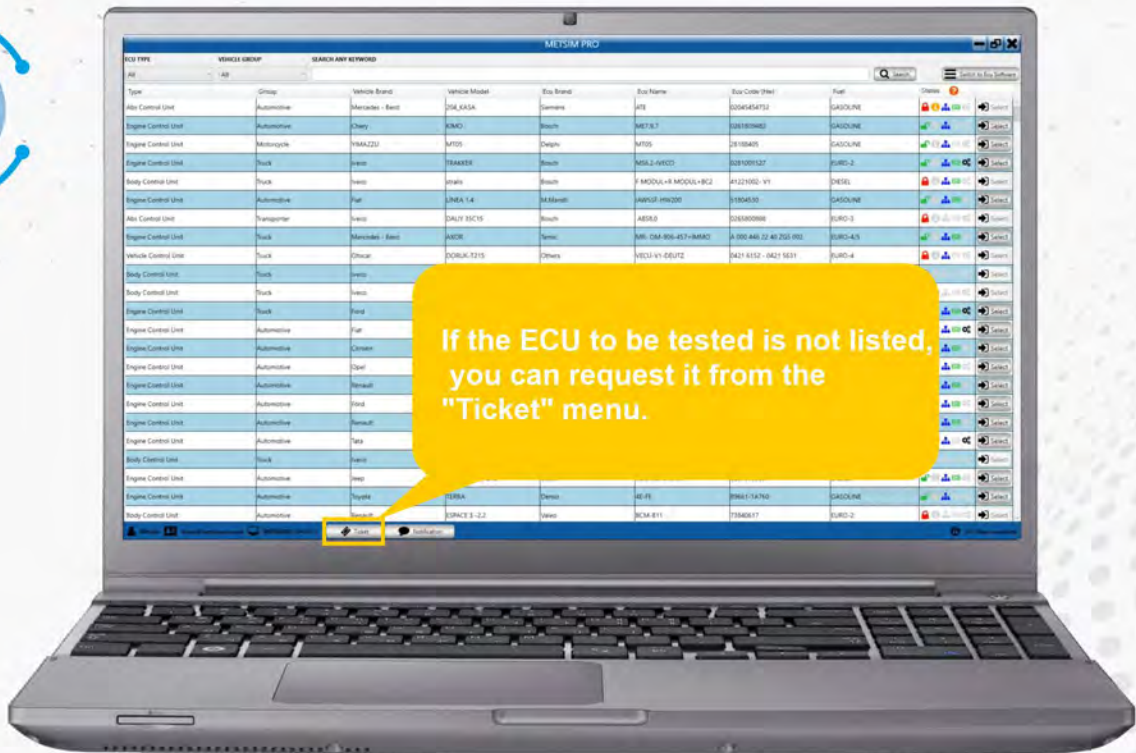


List of vehicles

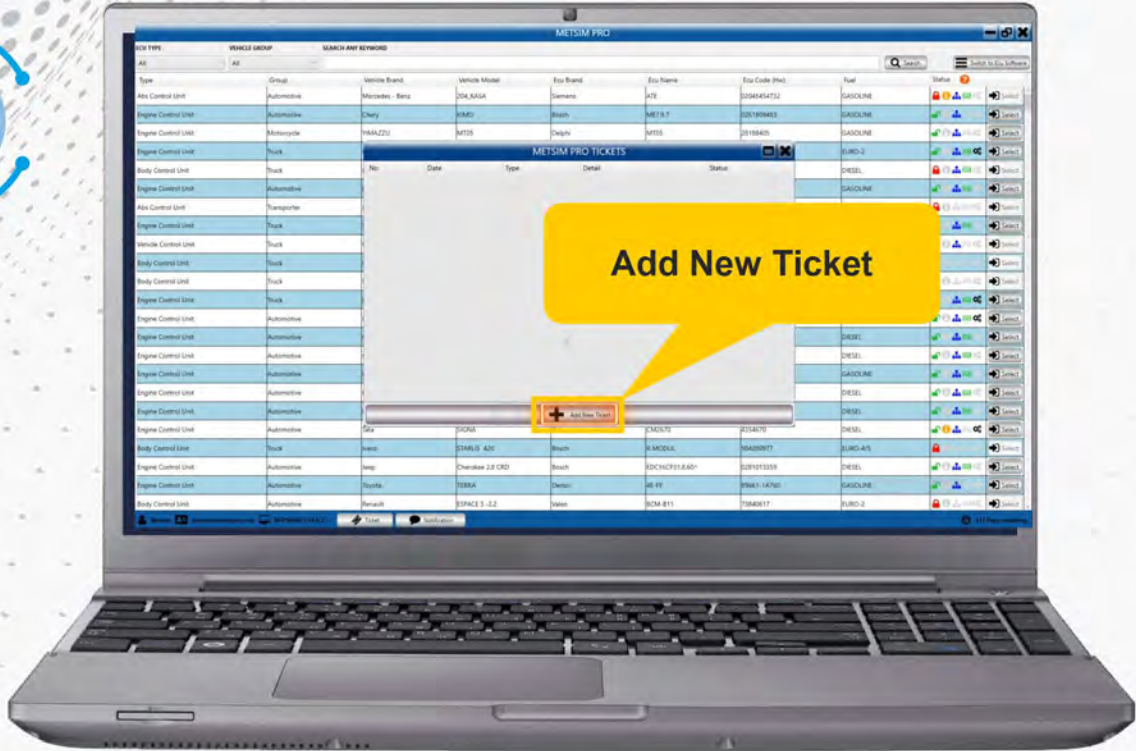
21



22

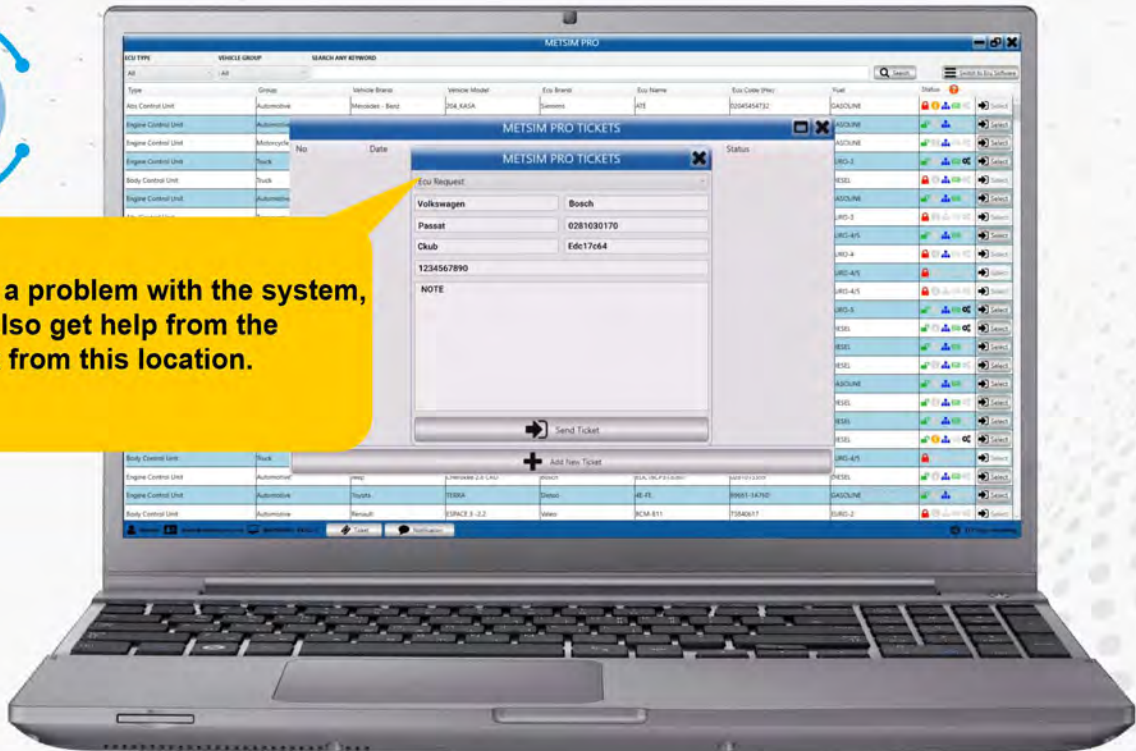


23



24

If there is a problem with the system, you can also get help from the help desk from this location.





INTRODUCING THE METSIM PRO DEVICE



Hardware included in the bag



Notification group used for active or passive warnings such as, 30+.15+.50+.power.rx.tx while using the device.



Control knob also used for ignition accelerator pedal and diagnostic connection.



Hardware included in the bag

3

On/off button of the device, also having the reset function.



Input from the 12V adapter used to power the device.

4

5

USB port used to establish the connection between the computer and the Metsimpro device.



Power socket to adjust the battery voltage for ECUs with different values.

6

Hardware included in the bag

7

No. 1-2-3 power box connection socket used to allow Metsimpro to simulate injector function during testing.



Screw inputs and outputs used to establish a connection between the motor control units and the device.

8

9

No. 1-2 power box connection socket used to allow Metsimpro to simulate injector function during testing.



Hardware included in the bag

11

C socket used for connecting Metsimpro with add-ons.



Input for Mnc 100-Mnc 200 connections and additional socket for manual ECU connections.

12

13

OBD socket used for diagnostic connection





ECU TEST DEMONSTRATION



ECU Demonstration & Simulation

Equipment Needed

*Metsimpro device*

1

**Minimum System Requirements ;**

Processor- 4th Gen Intel Core i5
RAM- 4 GB RAM
Display - 1920/1080

2



USB Connection Cable

3

*12v adapter*

4



Power Supply Cable

5

ECU Demonstration & Simulation

Equipment Needed



Pin group A used to establish the connection between the device and the ECU.

6



Power box n°2 acting as an injector.

7



Interconnect cable used for injector 1, 2 and 3 power boxes.

8



Group of X extension pins used to establish the connection between the device and the ECU.

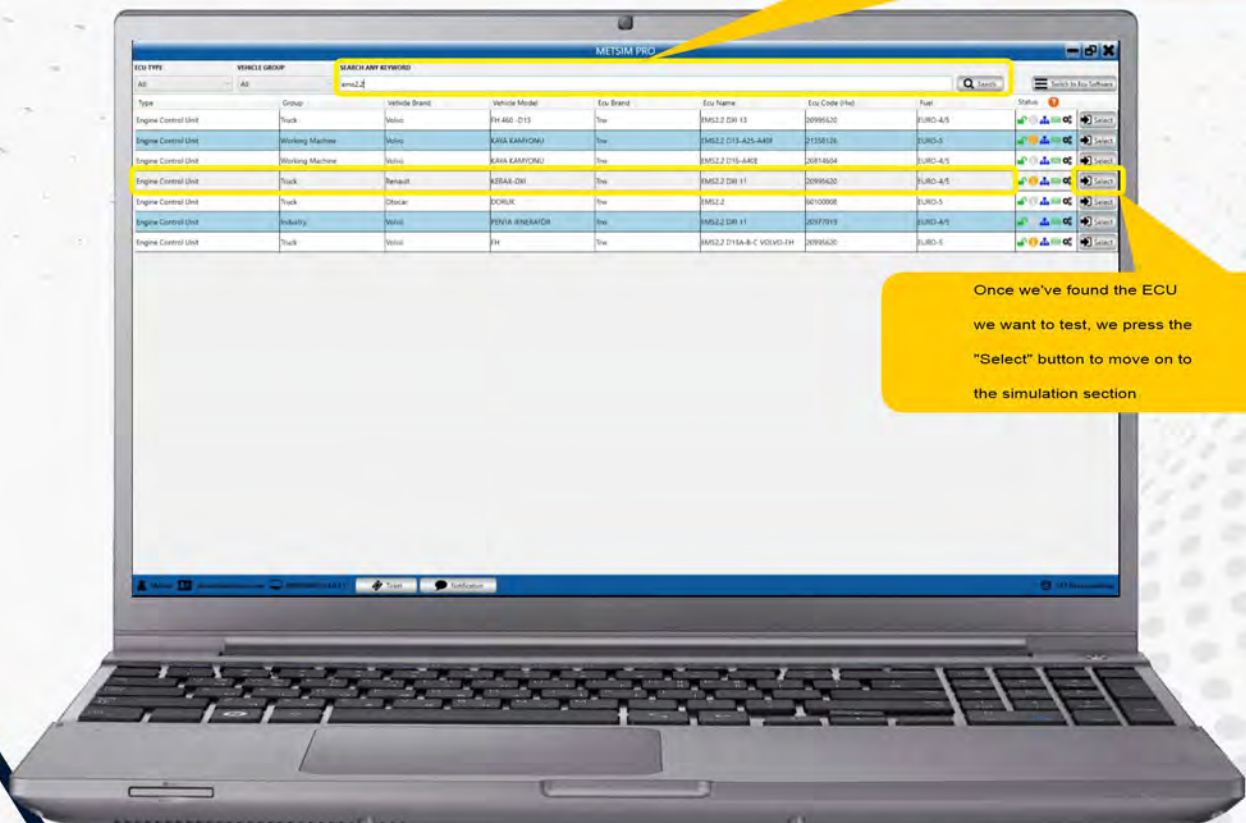
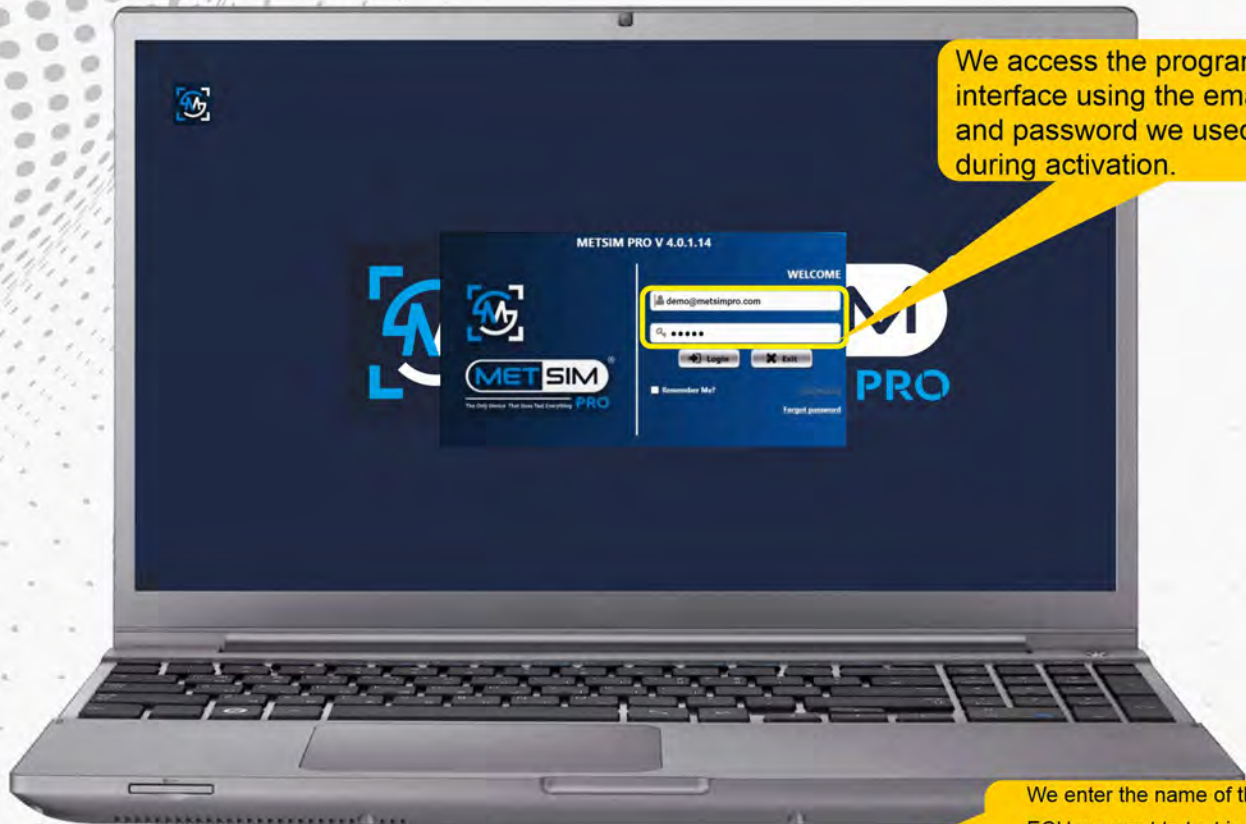
9



Power supply required to supply the required voltage to the ECU.

10

Demonstration ECU simulation (Immo off)



Demonstration ECU simulation



We make sure that the device is connected to the computer.



We are asked to install power supply box No. 2.

Demonstration ECU simulation

We are asked to install power supply box No. 2.



We use the interconnect cable for injector power boxes 1, 2 and 3.



Demonstration ECU simulation




Demonstration ECU simulation

Equipment Needed



! We make sure that the Mnc sockets are not plugged in. !



Demonstration ECU simulation

We connect the power supply and set the voltage to 24V to supply the required voltage to the ECU.



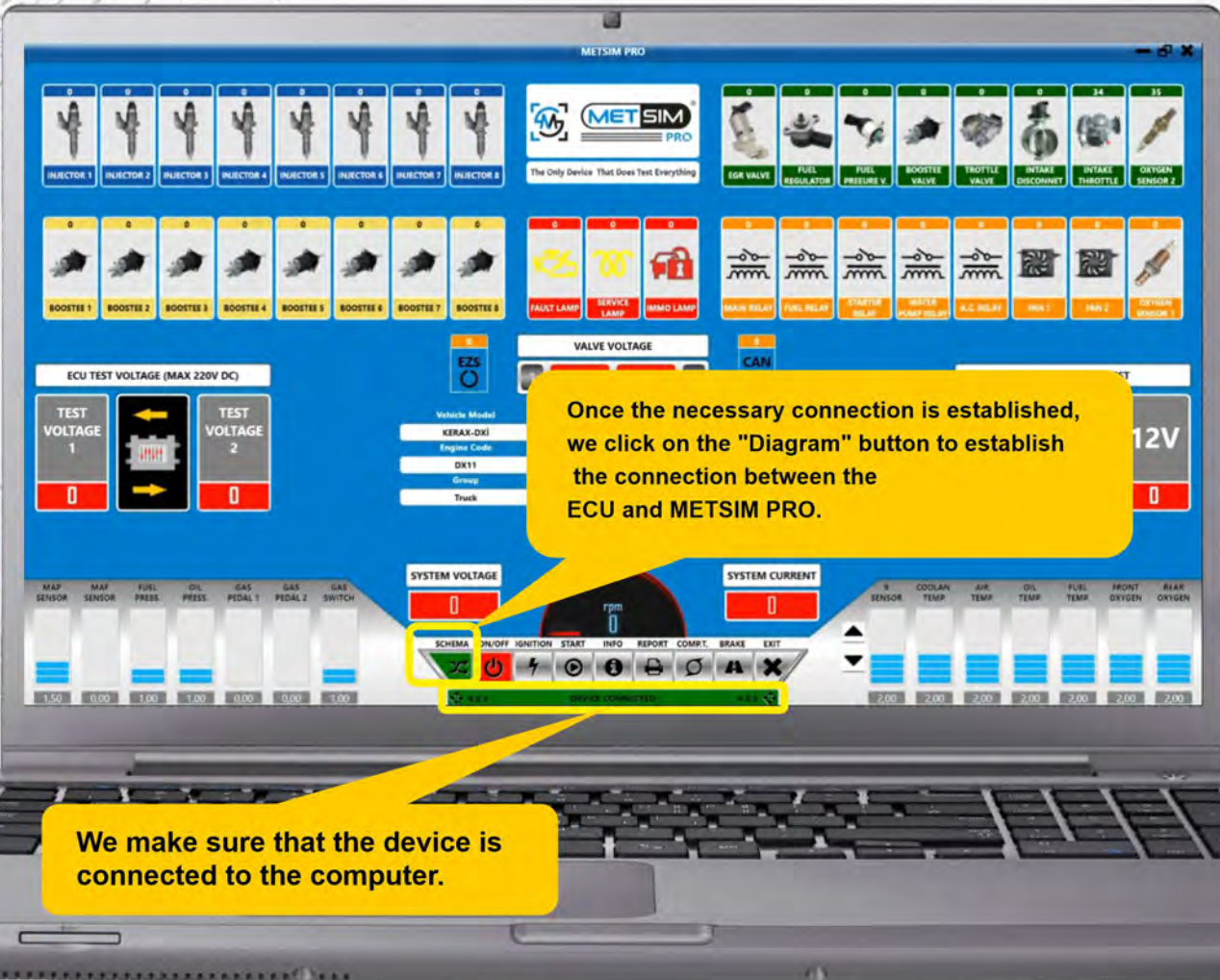
Demonstration ECU simulation

Equipment Needed

We connect the power supply and set the voltage to 24V to supply the required voltage to the ECU.

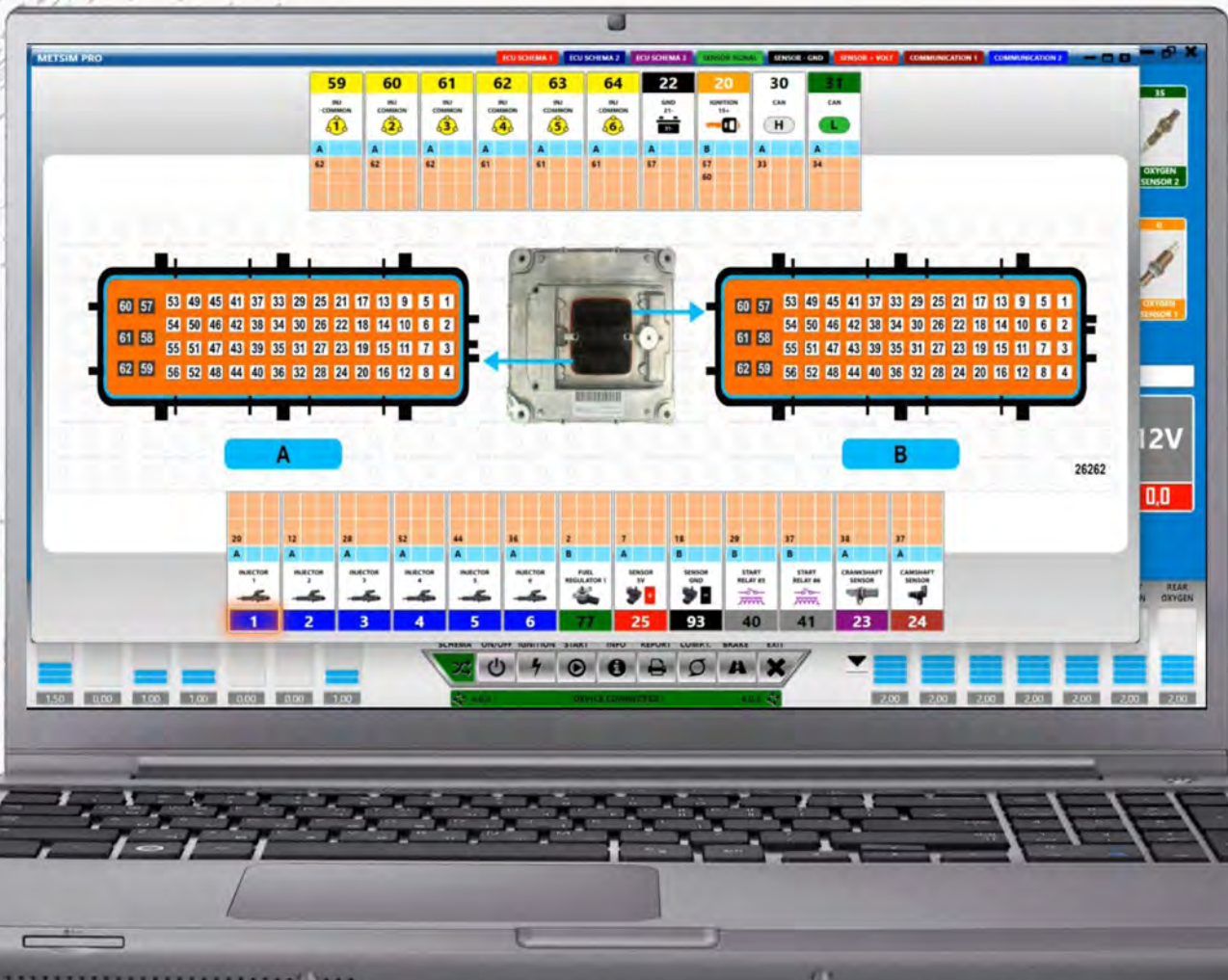


Demonstration ECU simulation



Demonstration ECU simulation

When we click on the "Schematic" button, a schematic section opens, showing how the connection between the ECU and METSIM PRO should be made.

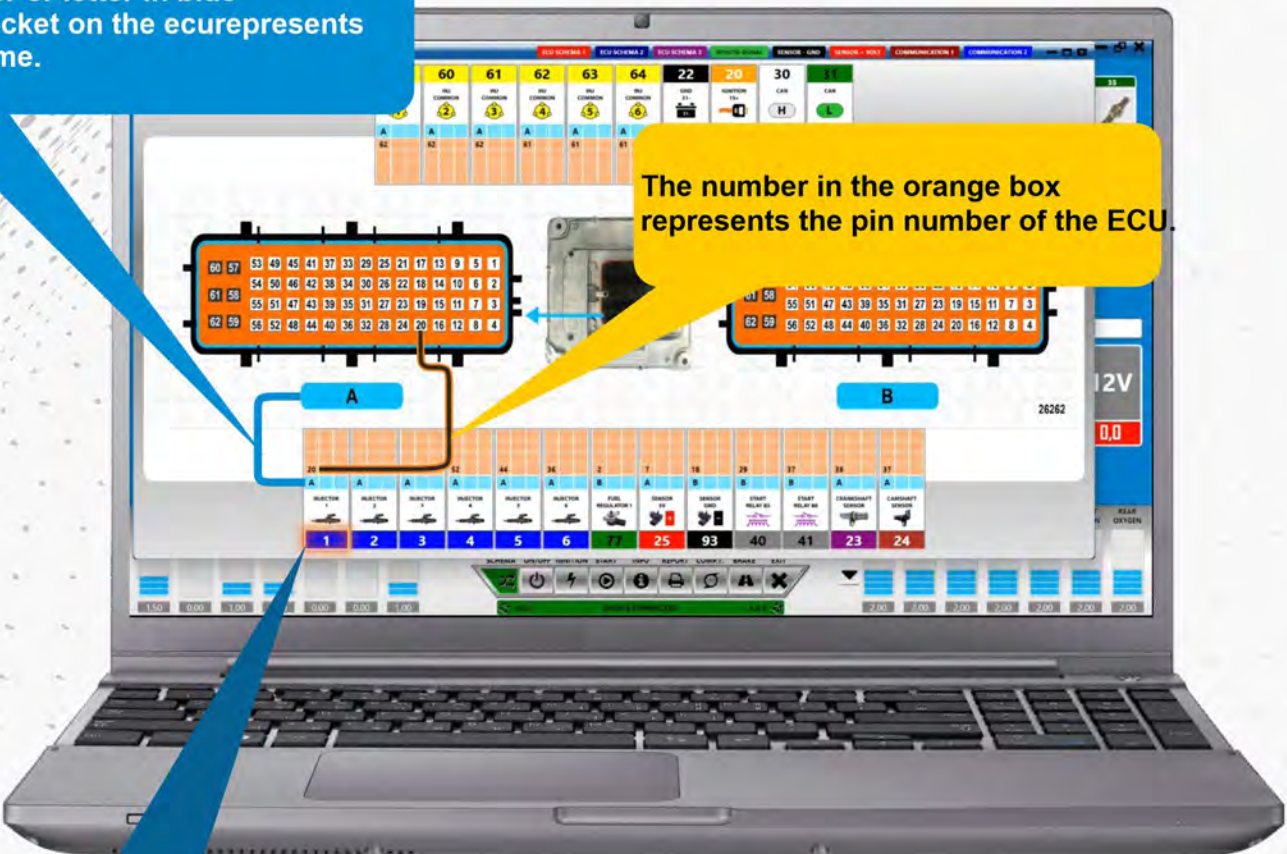


If the ECU we are testing has an Immo function, we need to make the connections shown in the diagram section at the top right, including the indicators, the ezs, the Immo antenna, and other connections.

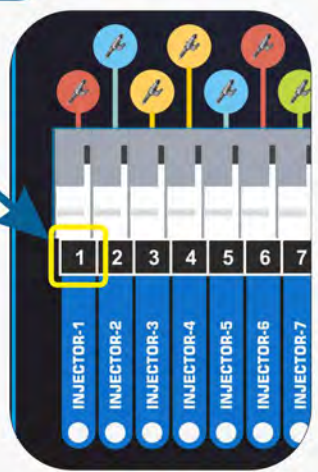
Demonstration ECU simulation

Number or letter in blue
The socket on the ecurepresents his name.

The number in the orange box represents the pin number of the ECU.

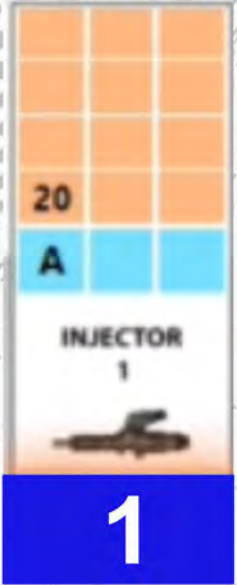


the turquoise numbers or letters represent the name of the socket located on the ECU.

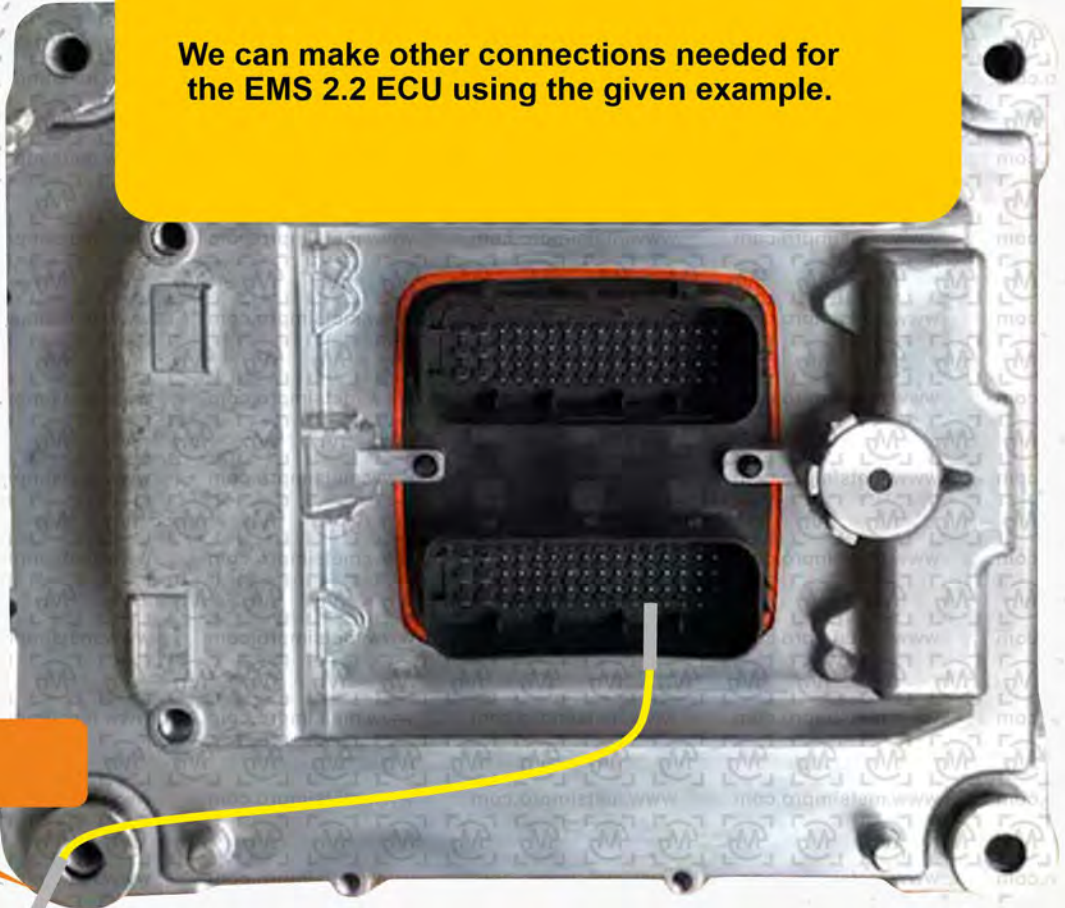


Demonstration ECU simulation

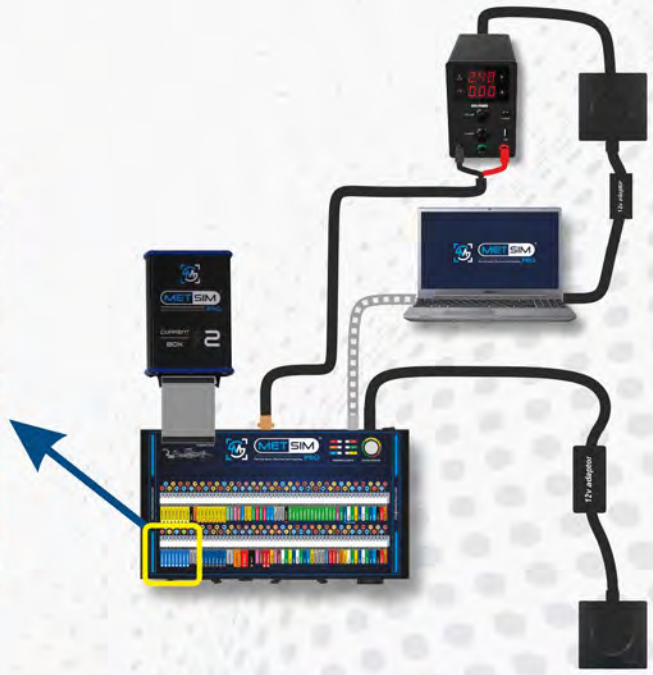
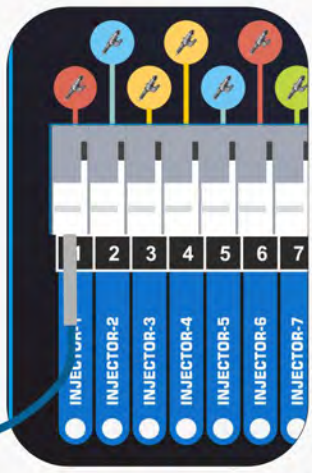
We can make other connections needed for the EMS 2.2 ECU using the given example.



Pin Group A

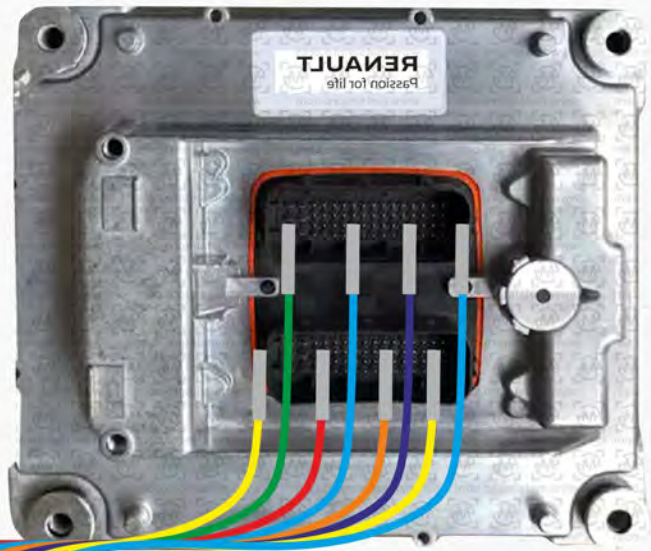


Pin Extension Cable X



Demonstration ECU simulation

Pin Group A

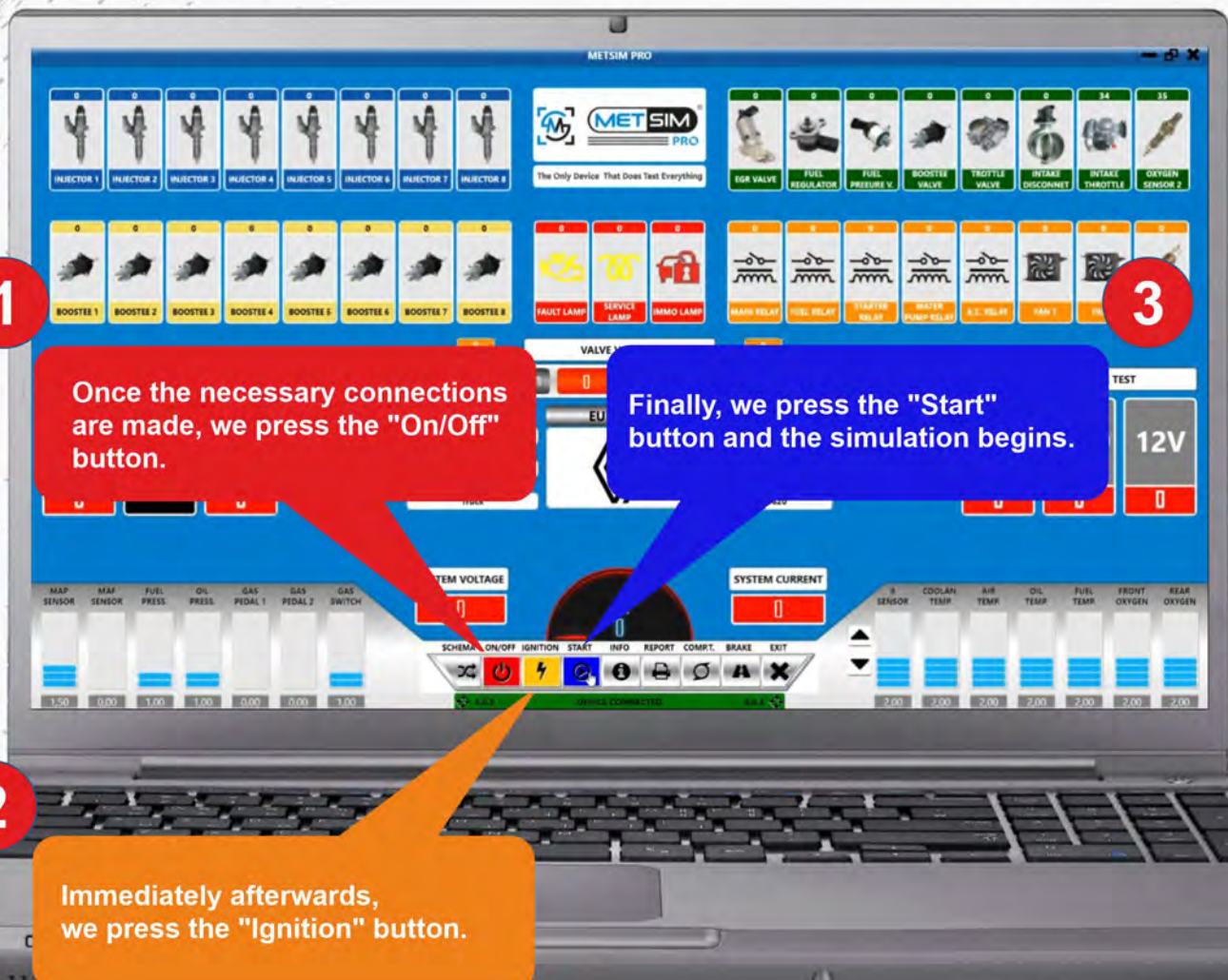


Pin Extension Cable



12v adaptor

Demonstration ECU simulation



Demonstration ECU simulation

We can see that the injector group is working here, the green areas indicate that the active areas are working.



METSIM PRO

The Only Device That Does Test Everything

173	140	128	185	228	199	0	0	0	0	0	0	0	0	0	34	35
INJECTOR 1	INJECTOR 2	INJECTOR 3	INJECTOR 4	INJECTOR 5	INJECTOR 6	INJECTOR 7	INJECTOR 8	SOB VALVE	FUEL REGULATOR	FUEL PRESSURE V	BOOSTER VALVE	TRUFFLE VALVE	INTAKE DISCONNECT	INTAKE THROTTLE	OXYGEN SENSOR 2	
152	183	160	174	261	181	0	0	0	0	0	0	0	0	0	0	0
BOOSTER 1	BOOSTER 2	BOOSTER 3	BOOSTER 4	BOOSTER 5	BOOSTER 6	BOOSTER 7	BOOSTER 8	FAULT LAMP	SERVICE LAMP	WMO LAMP	WASH RELAY	FUEL RELAY	IGNITION RELAY	WHEEL TEMP RELAY	A.C. RELAY	WATER PUMP

ECU TEST VOLTAGE (MAX 220V DC)

TEST VOLTAGE 1	TEST VOLTAGE 2
0,0	0,0

VALVE VOLTAGE

2,8	0,0
-----	-----

SENSOR VOLTAGE TEST

5V	GND	12V
5,0	0,0	0,0

Vehicle Model: **KERAX-DKI**
Engine Code: **DX11**
Group: **Truck**

Vehicle Brand: **EURO-4/5**
Ecu Brand: **Trw**
Ecu Name: **EMS2.2 DK1 11**
Ecu Code: **20995420**

SYSTEM VOLTAGE: **9.5**
SYSTEM AMPER: **0.69**

MAP SENSOR: 1.85, 0.50, 1.40, 1.40, 0.50, 0.50, 1.40
FUEL PRESS: 1.40, 1.40
OIL PRESS: 1.40, 1.40
GAS PEDAL 1: 0.50, 0.50
GAS PEDAL 2: 0.50, 0.50
GAS SWITCH: 1.40

SCHEMA ON/OFF IGNITION START INFO REPORT COMPT. BRAKE EXIT

2.4.0.1 DEVICE CONNECTED 4.3.1

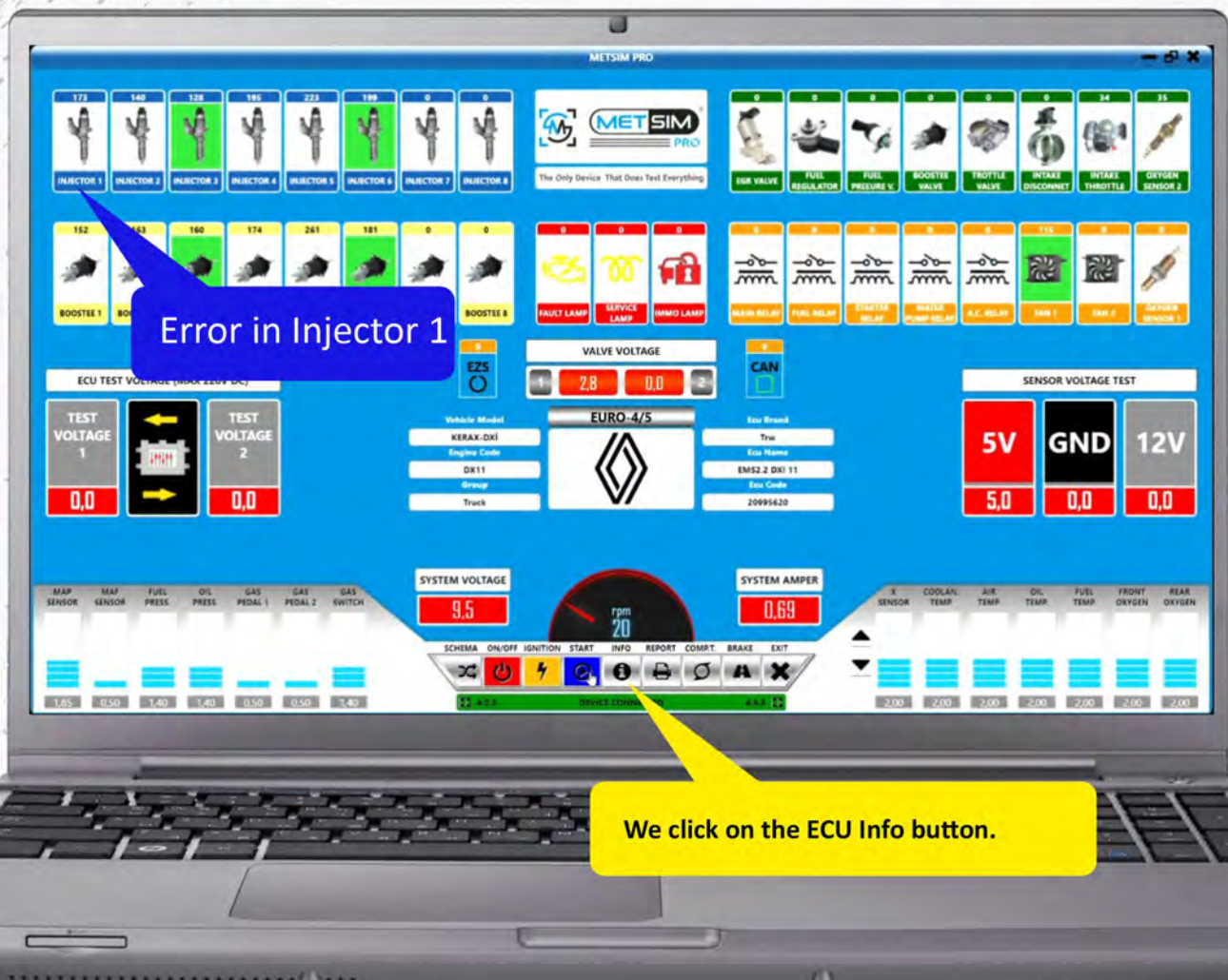


Use of the Info ECU



Use of the Info ECU

Even after you have made all the connections in the injector group, if an injector is not working, you can click the ECU Info button to identify the source of the problem.



Use of the Info ECU

In the ECU Info section, you can find the auxiliary diagrams associated with the ECU.



Image of the outer cover of the ECU.

Use of the Info ECU

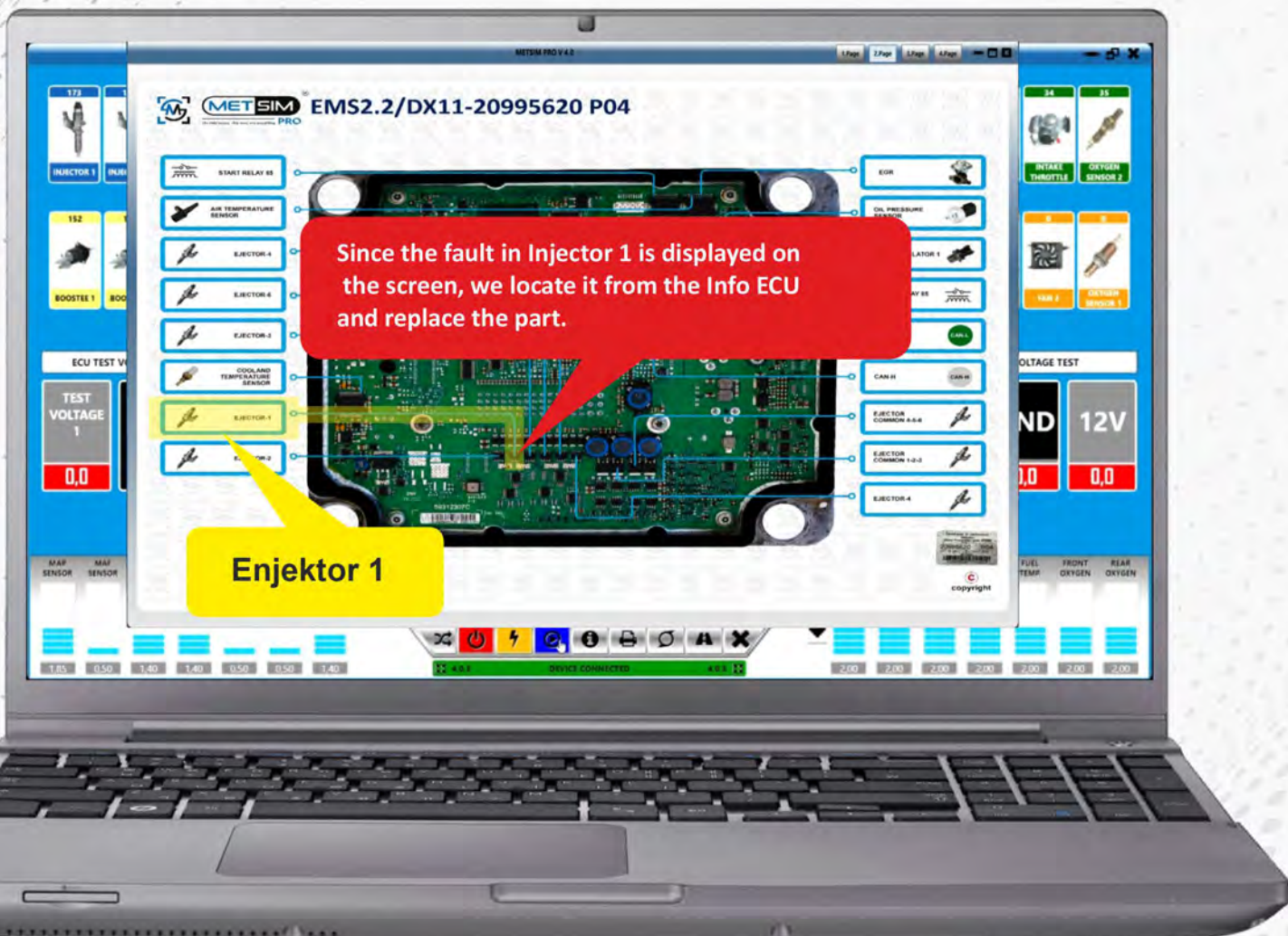


Diagram of the internal components of the ECU.

Use of the Info ECU

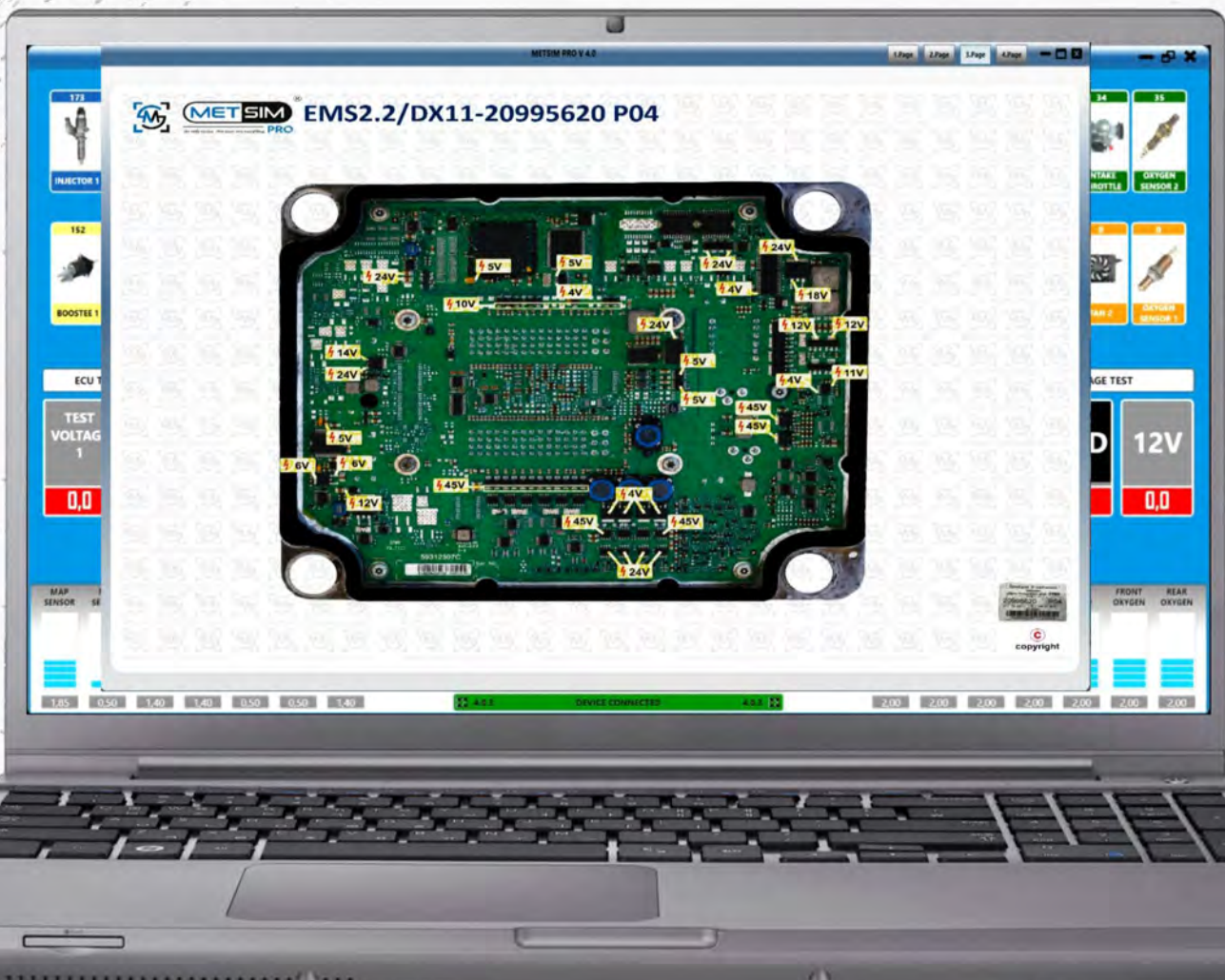


Diagram of the ECU voltage



Voltage measurement



Measurement of voltage values.

You can measure the voltage values of the ECU and compare the voltages of two different ECUs.

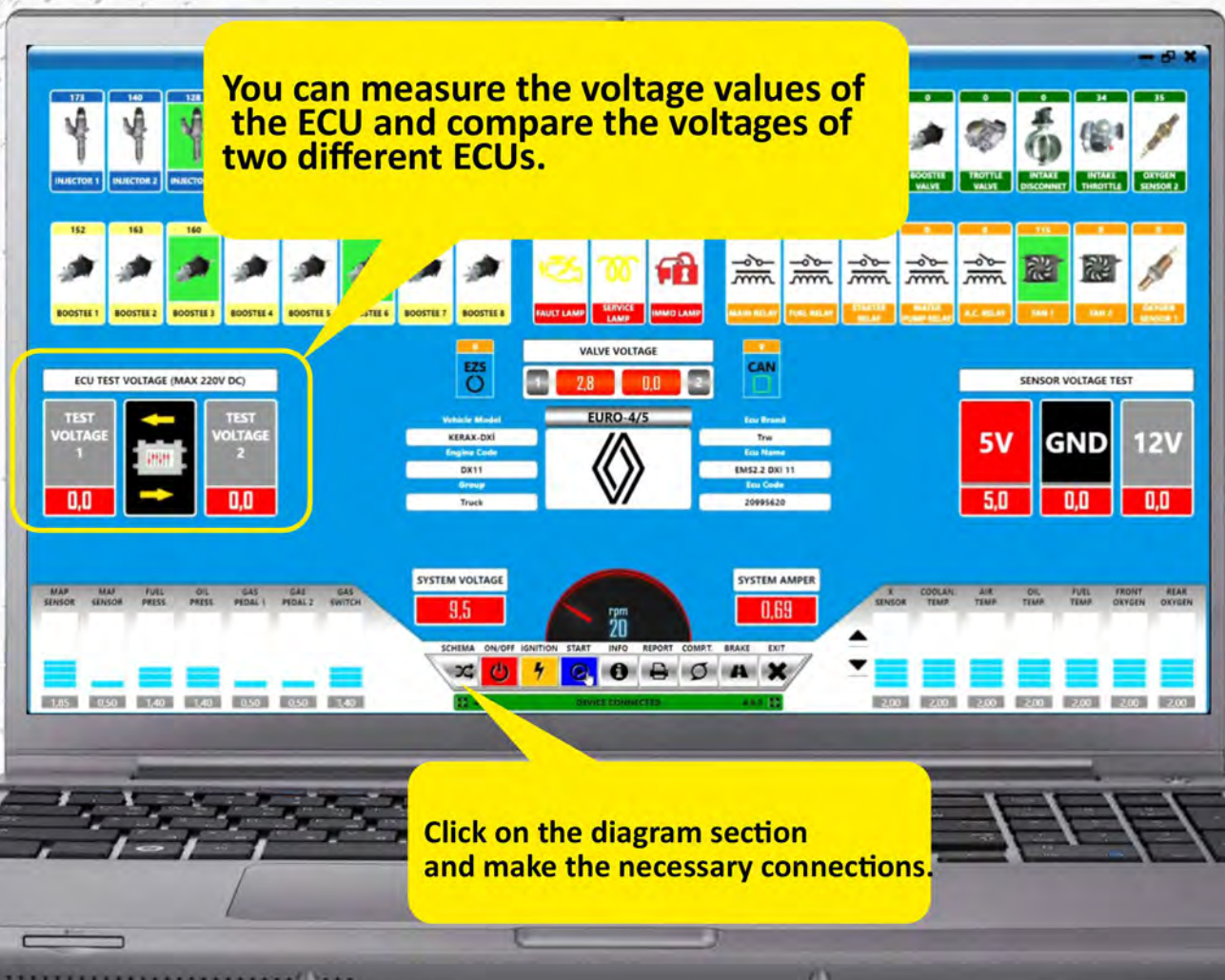
ECU TEST VOLTAGE (MAX 220V DC)

TEST VOLTAGE 1
0,0



TEST VOLTAGE 2
0,0

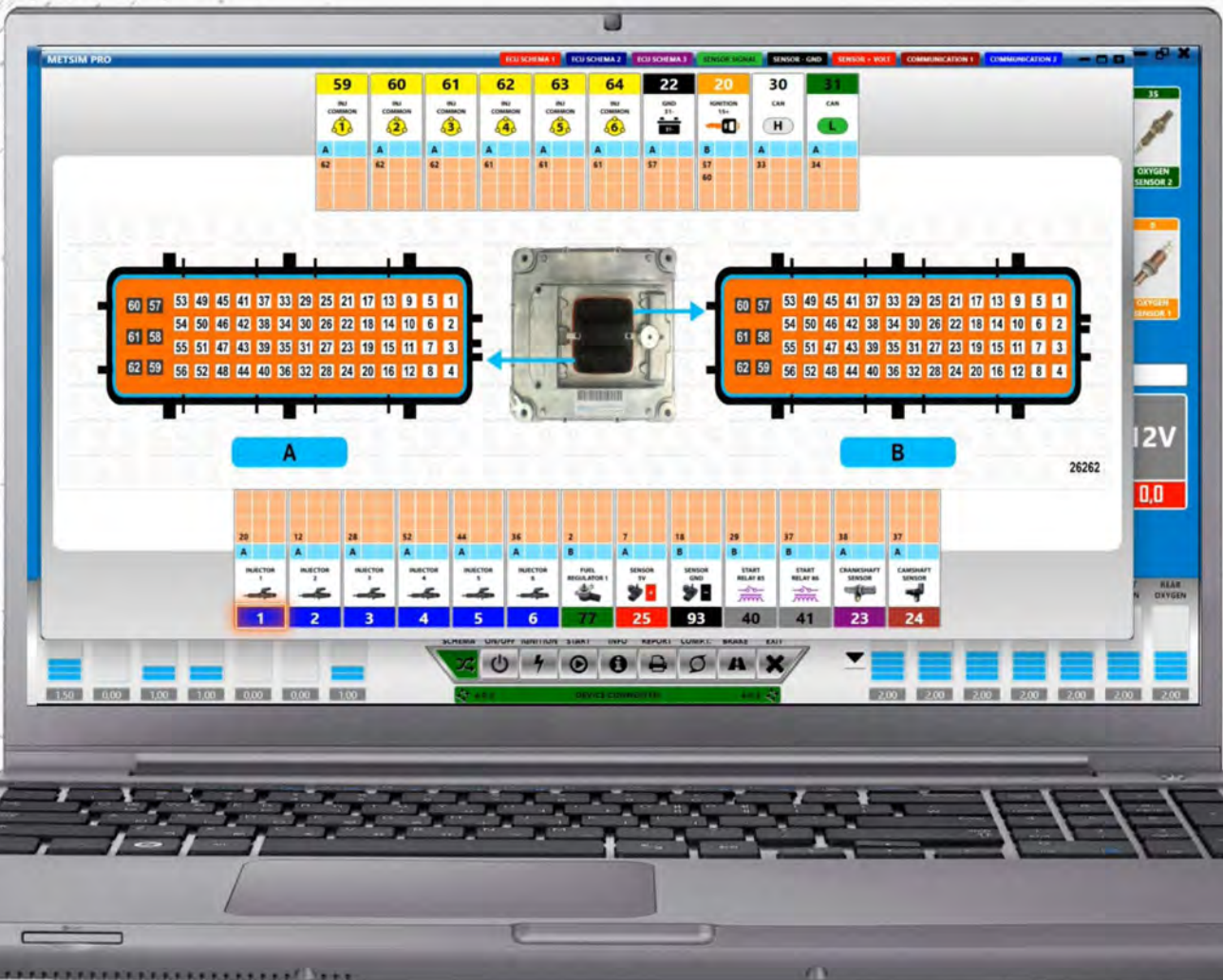
Click on the diagram section and make the necessary connections.



Measurement of voltage values.

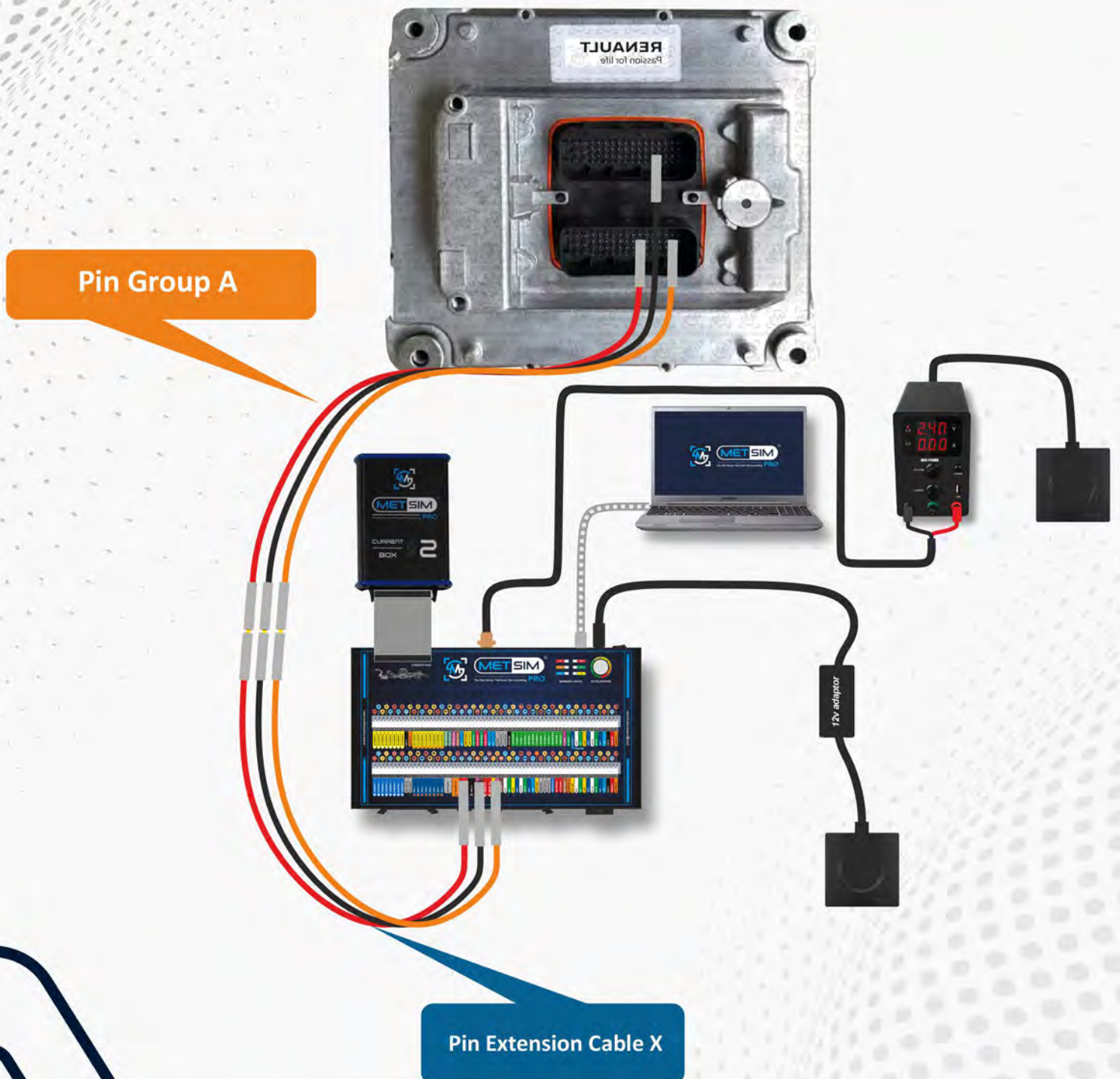
For measuring voltage values

- 22 (GND-)
- 20 (IGNITION 15+)
- 21 (POWER 30+) must be connect.



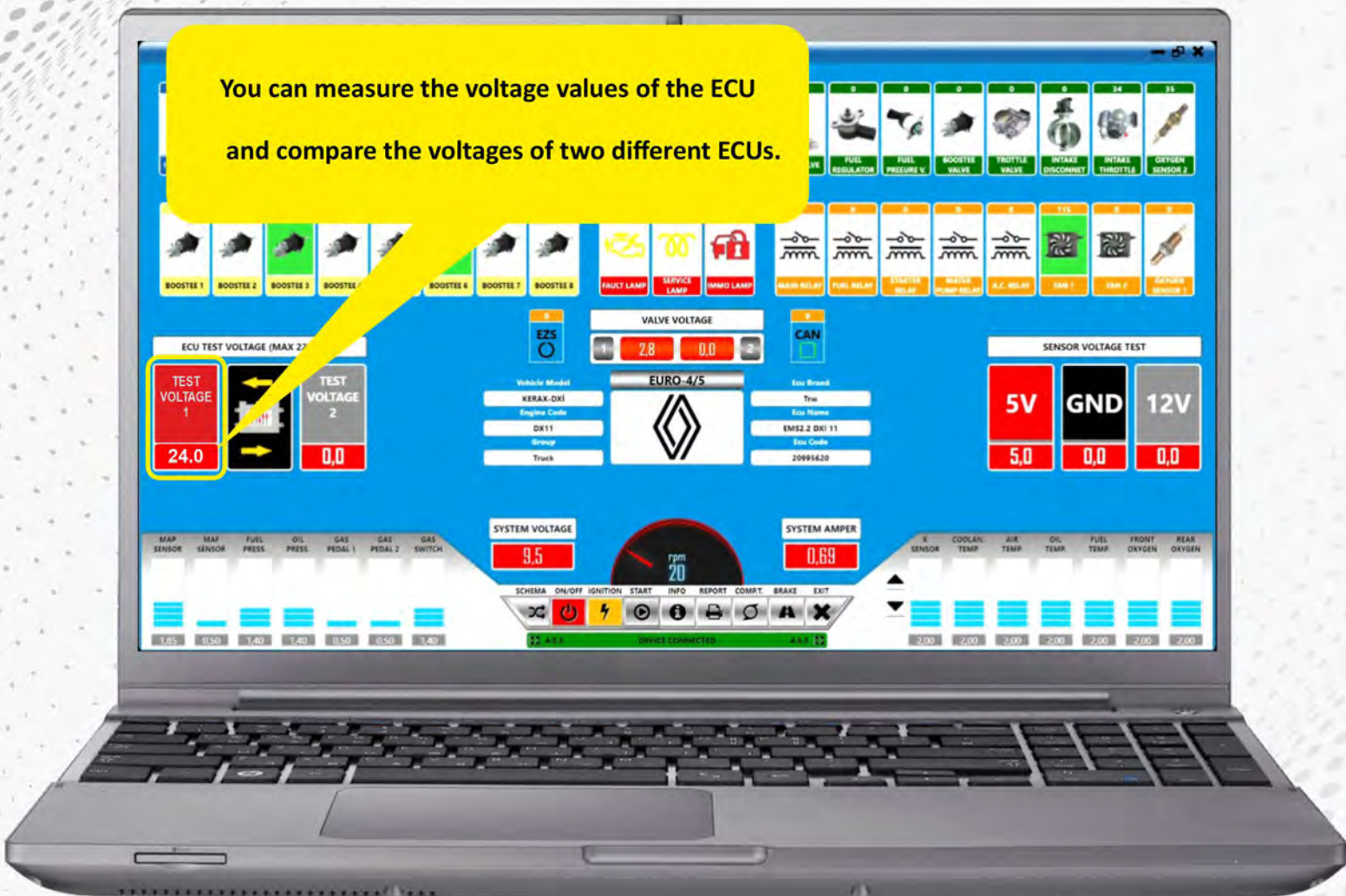
Measurement of voltage values.

After connecting the 30+, 31-, and 15+ pins of the ECU in the diagram section, you can press the on/off button and then measure the voltage by pressing the power button.



Measurement of voltage values.

You can measure the voltage values of the ECU and compare the voltages of two different ECUs.

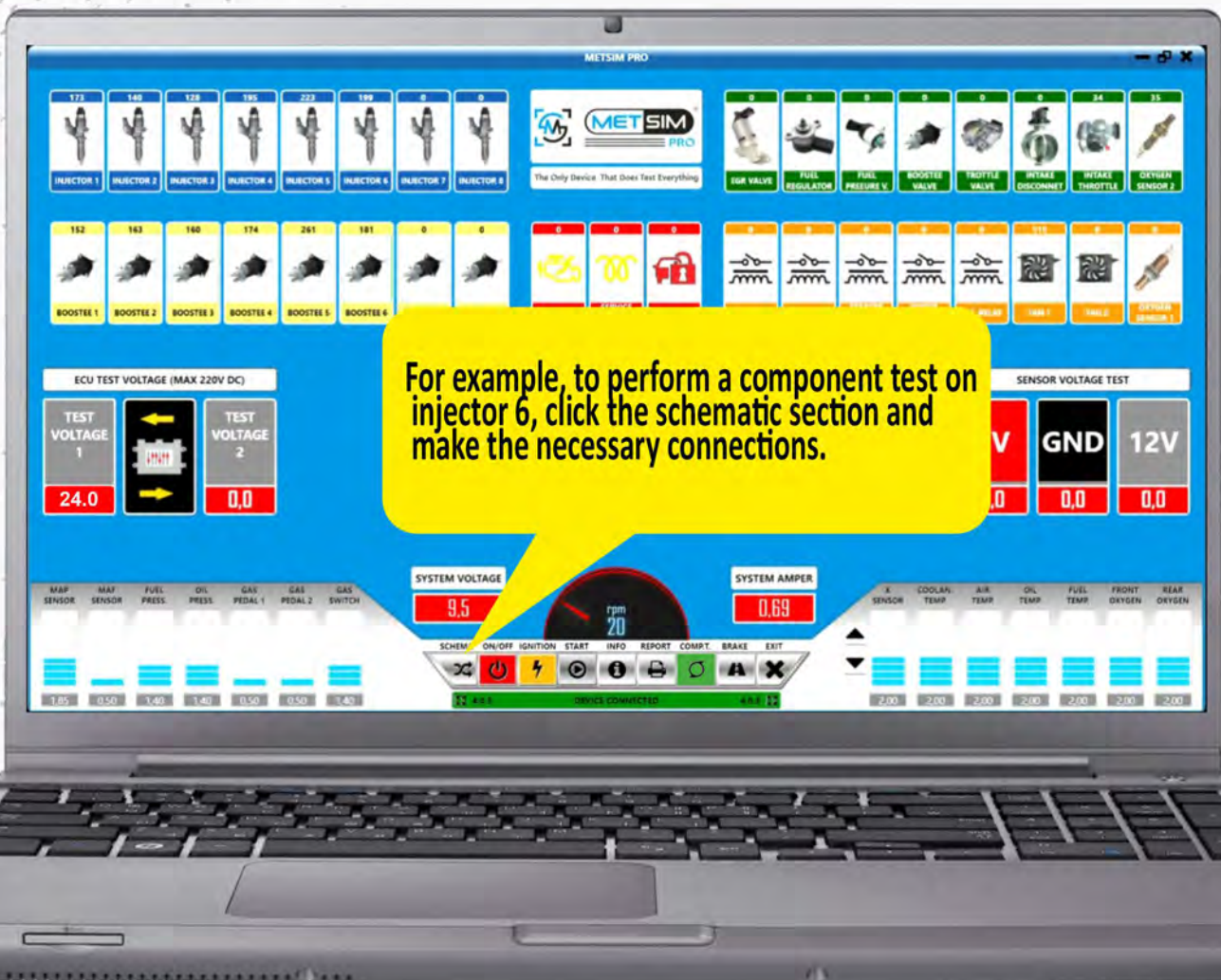




Using Component Testing



Using Component Testing



Using Component Testing

Attention

For Component Test

21 (power 30+)

22 (GND-)

20 (IGNITION 15+)

Şemada eğer var ise,

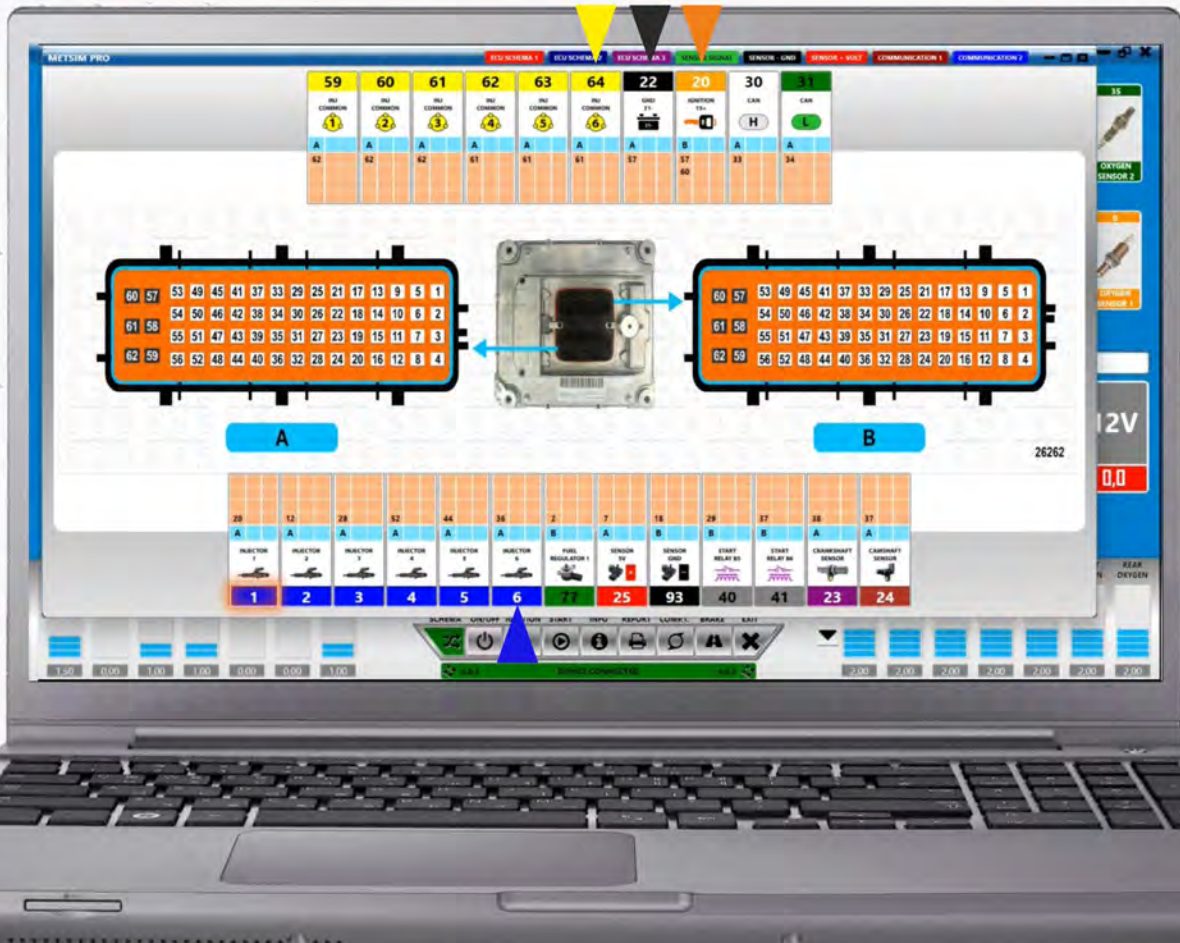
9 (MAIN RELAY 85)

19 (MAIN RELAY 87)

must connect

19		9	
MAIN RELAY 87		MAIN RELAY 85	
A		A	
3		69	

Connect to injector 6 Connection

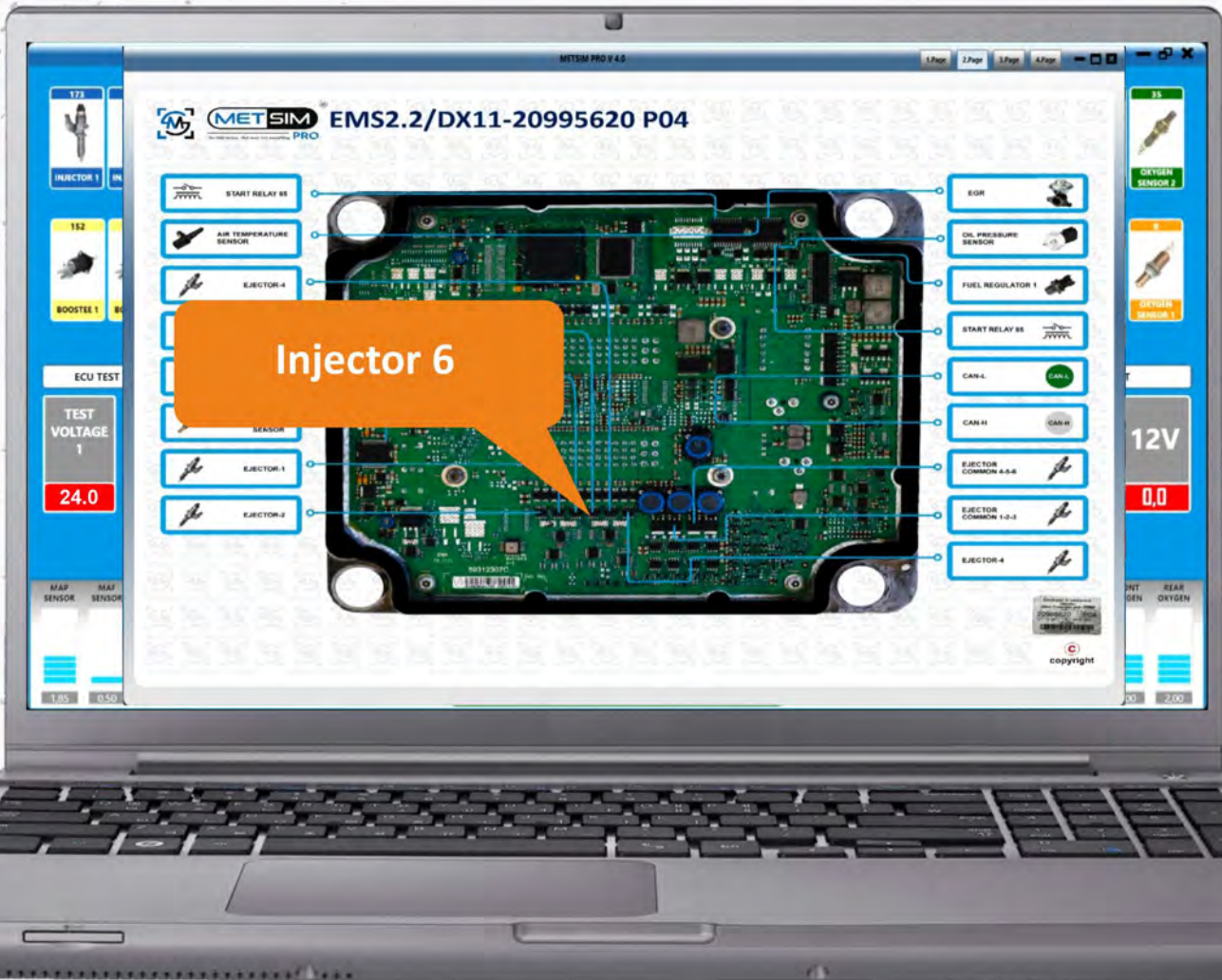


Using Component Testing

To use the component test function, connect the signal and + of the component you want to test to the schematic, and then connect the component test probe to the component test terminal on MetsimPro. You will be able to check if the component is working by touching the signal or + terminal of the component on



Using Component Testing



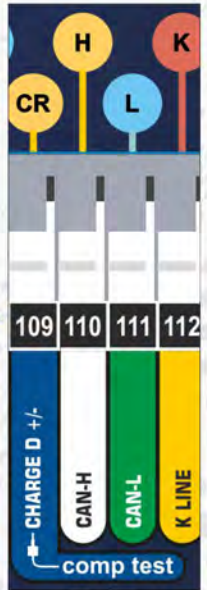
Using Component Testing

Injector 6

Component Test Probe



12v adaptor



The component test probe will be connected to terminal 109

Using Component Testing

You can check here if injector 6 works.



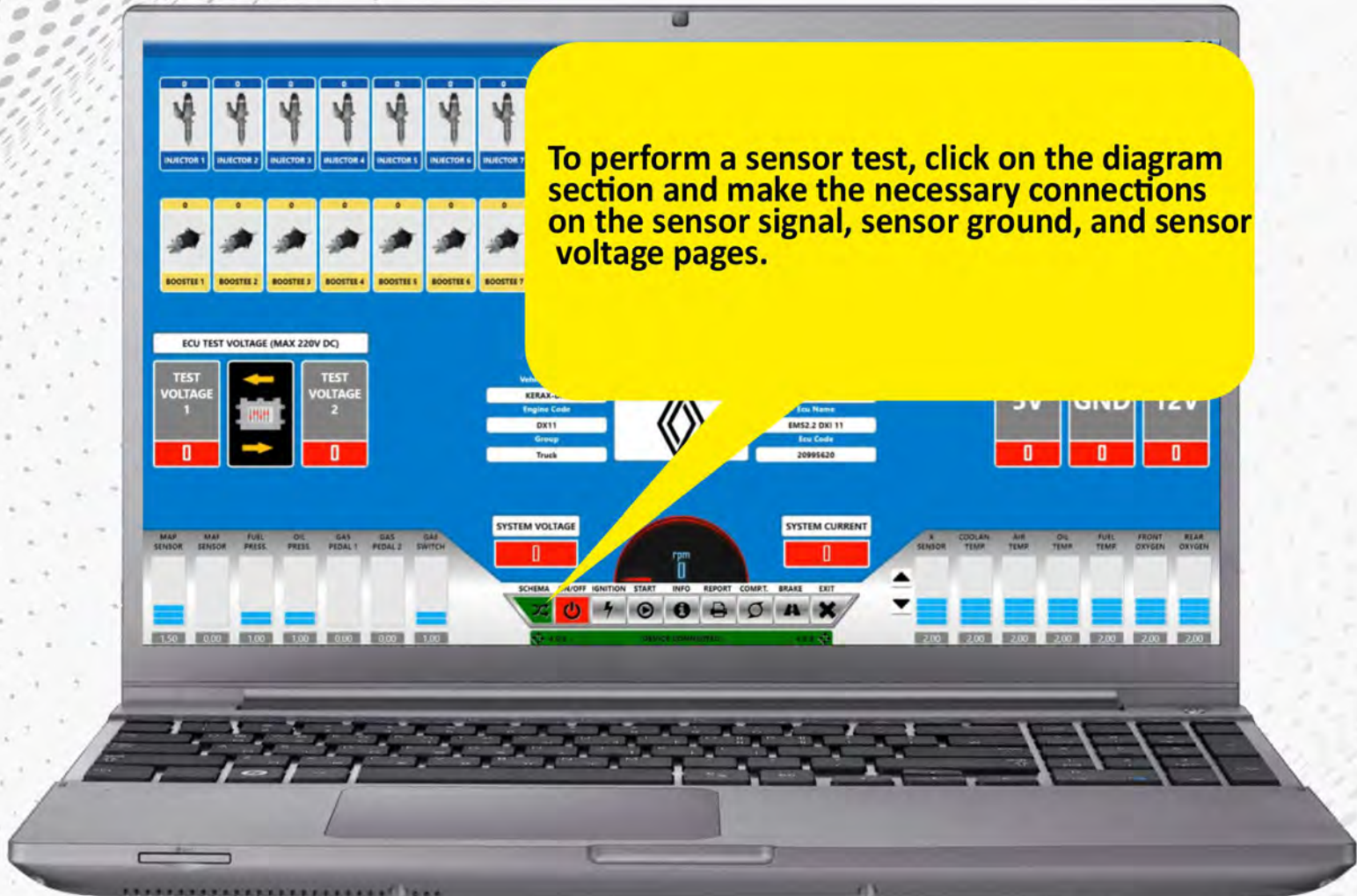


Sensor Testing Related to Motor Speed



How to perform a sensor test related to motor speed.

Oil Pressure Sensor Test Example



How to perform a sensor test related to motor speed.

Oil Pressure Sensor Test Example

önemli

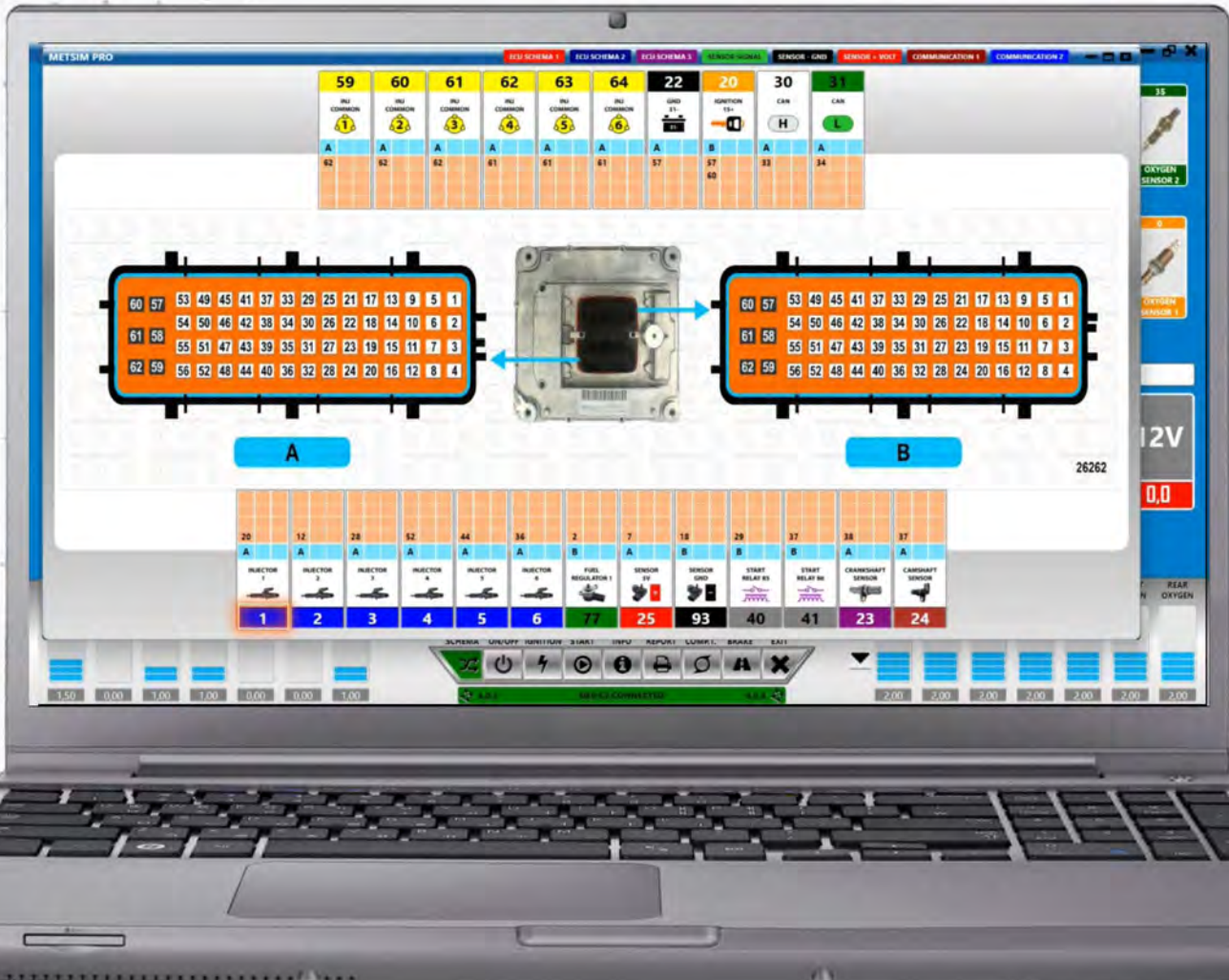
Şemada eğer var ise,
9 (MAIN RELAY 85)
19 (MAIN RELAY 87)
bağlanmalı

19	9
MAIN RELAY 87	MAIN RELAY 85
A	A
3	69

önemli

Canlı değerleri görmek için
30 (CAN H)
31 (CAN L)
32 (K-LINE)
bağlanmalı.

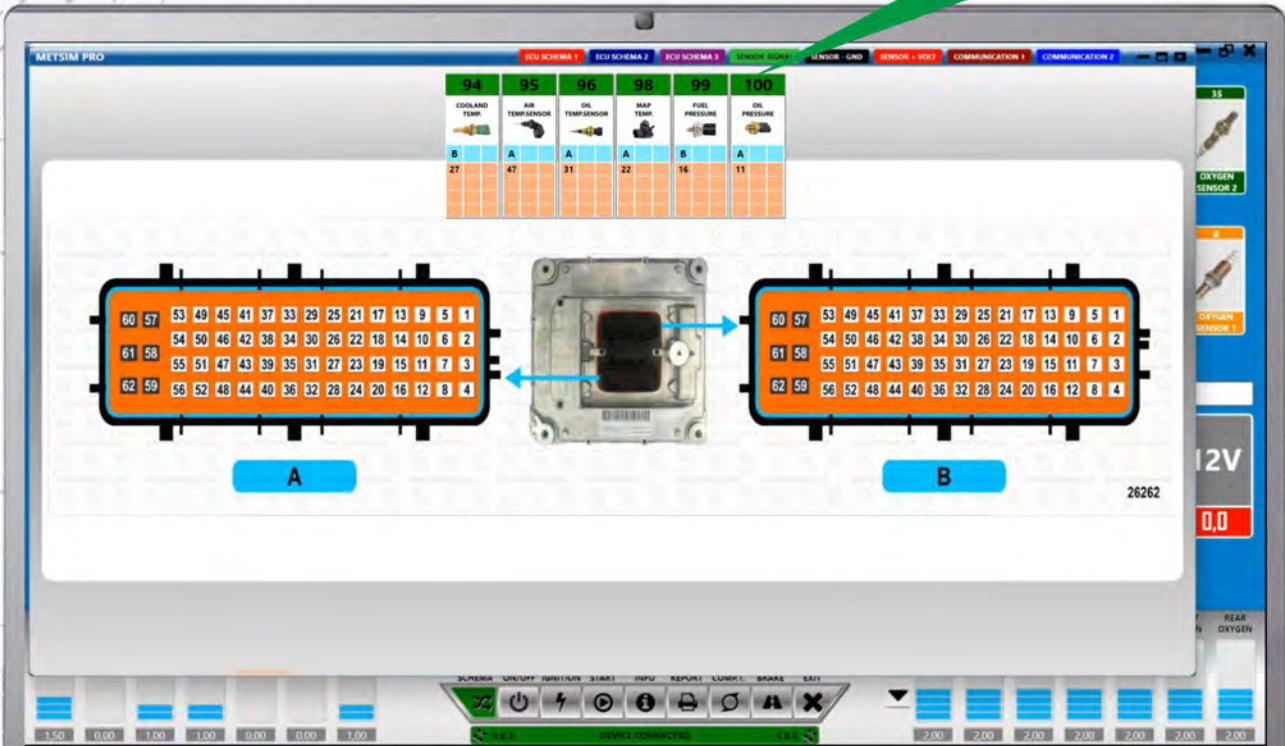
30	31	32
CAN H	CAN L	K-LINE
A	A	A
33	34	



■ dijital sensör testi nasıl yapılır.

■ Örnek oil pressure sensor testi

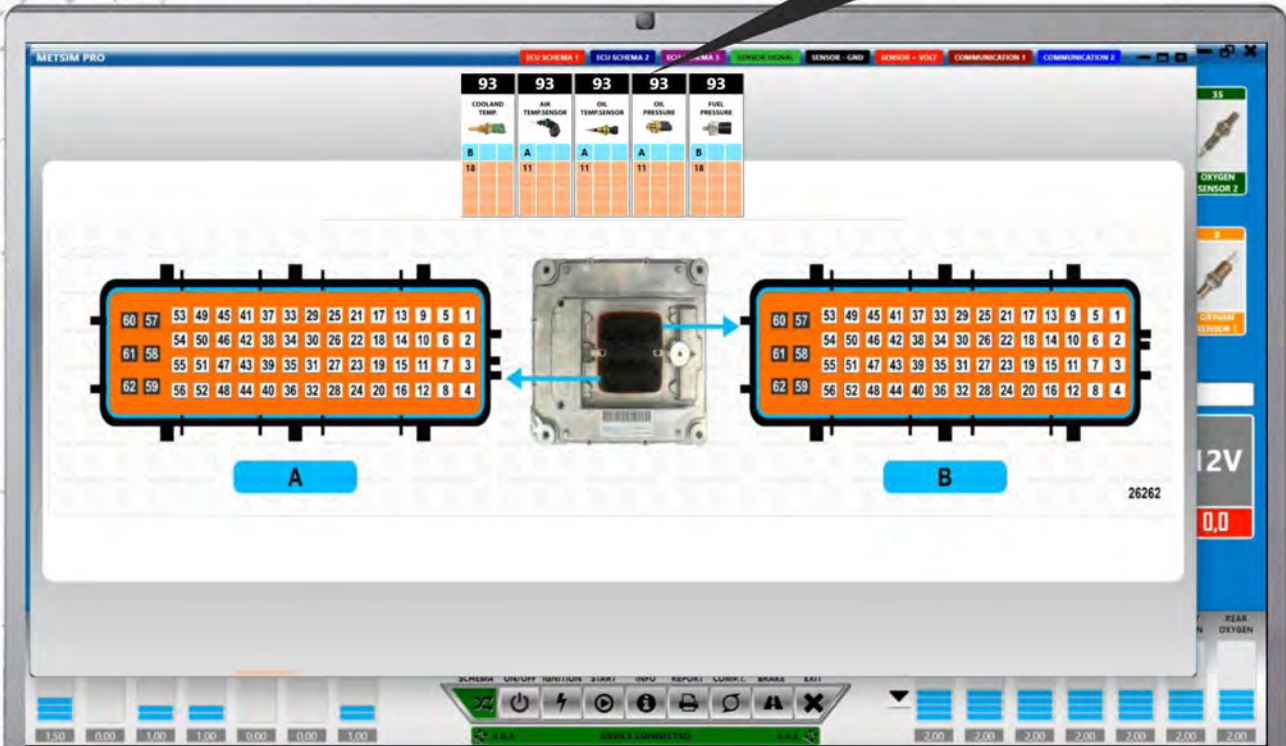
100 oil pressure



■ dijital sensör testi nasıl yapılır.

■ Örnek oil pressure sensor testi

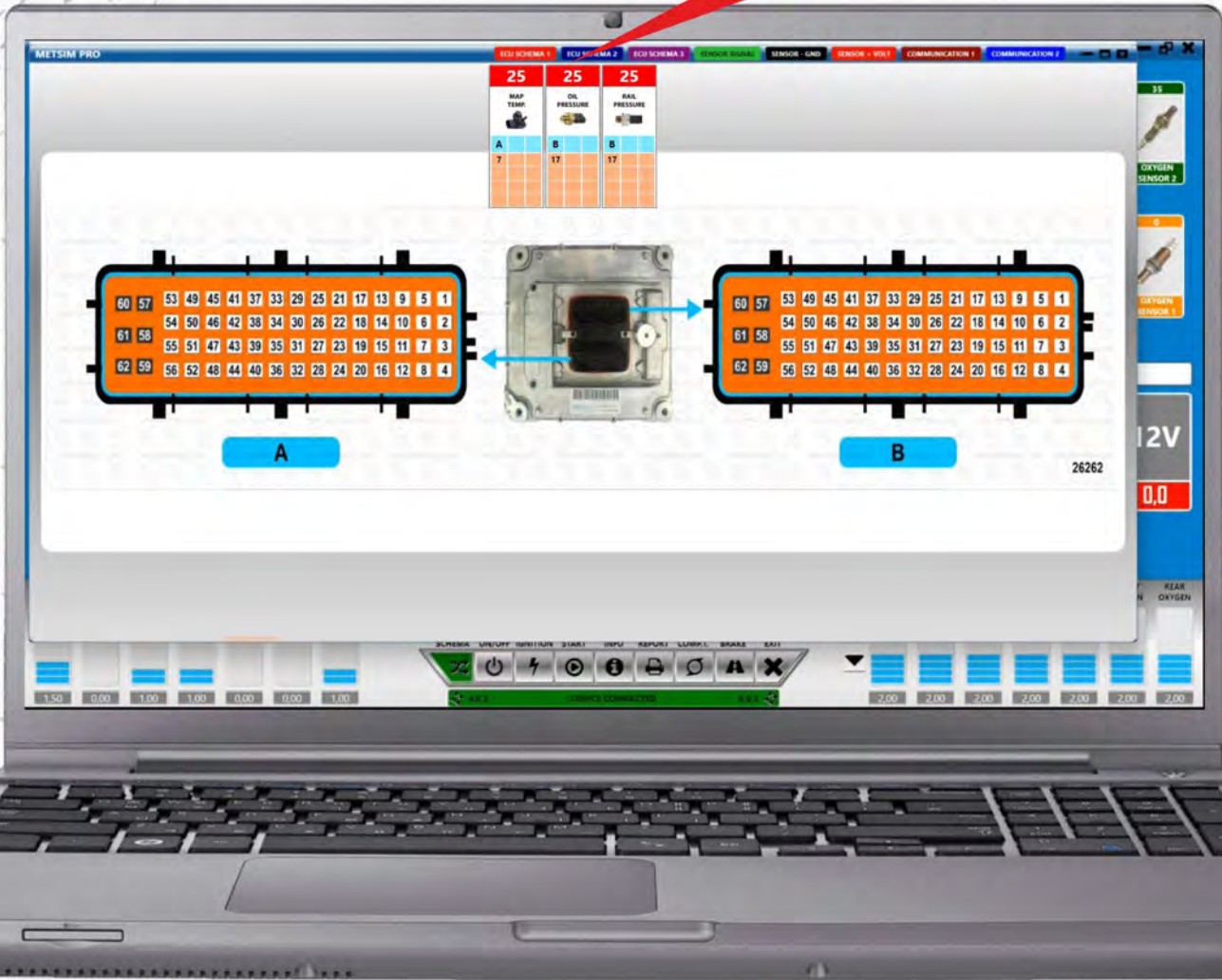
93 oil pressure



■ Dijital sensör testi nasıl yapılır.

■ Örnek oil pressure sensor testi

25 oil pressure



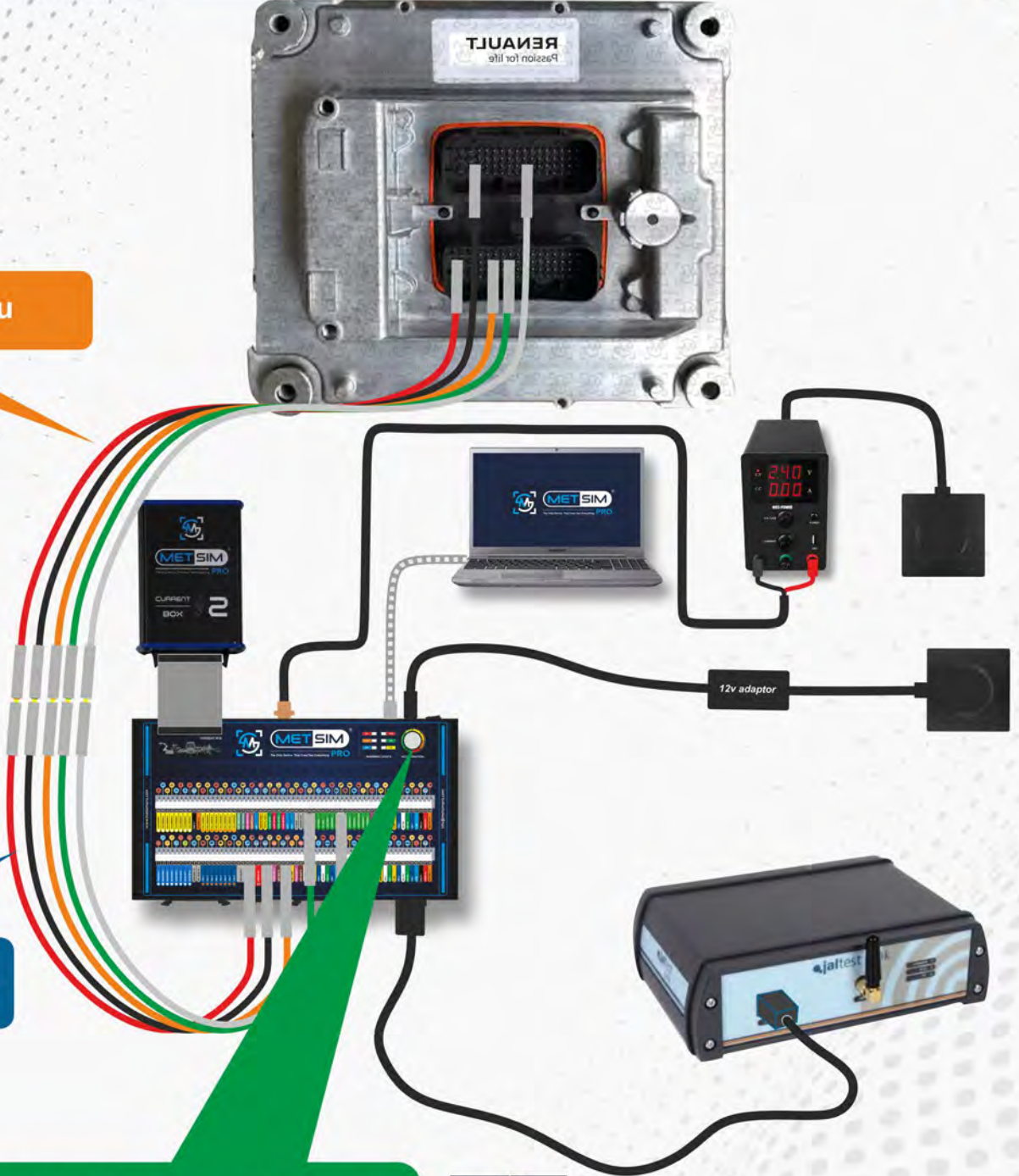
■ Dijital sensör testi nasıl yapılır.

■ Örnek oil pressure sensor testi

A pin gurubu

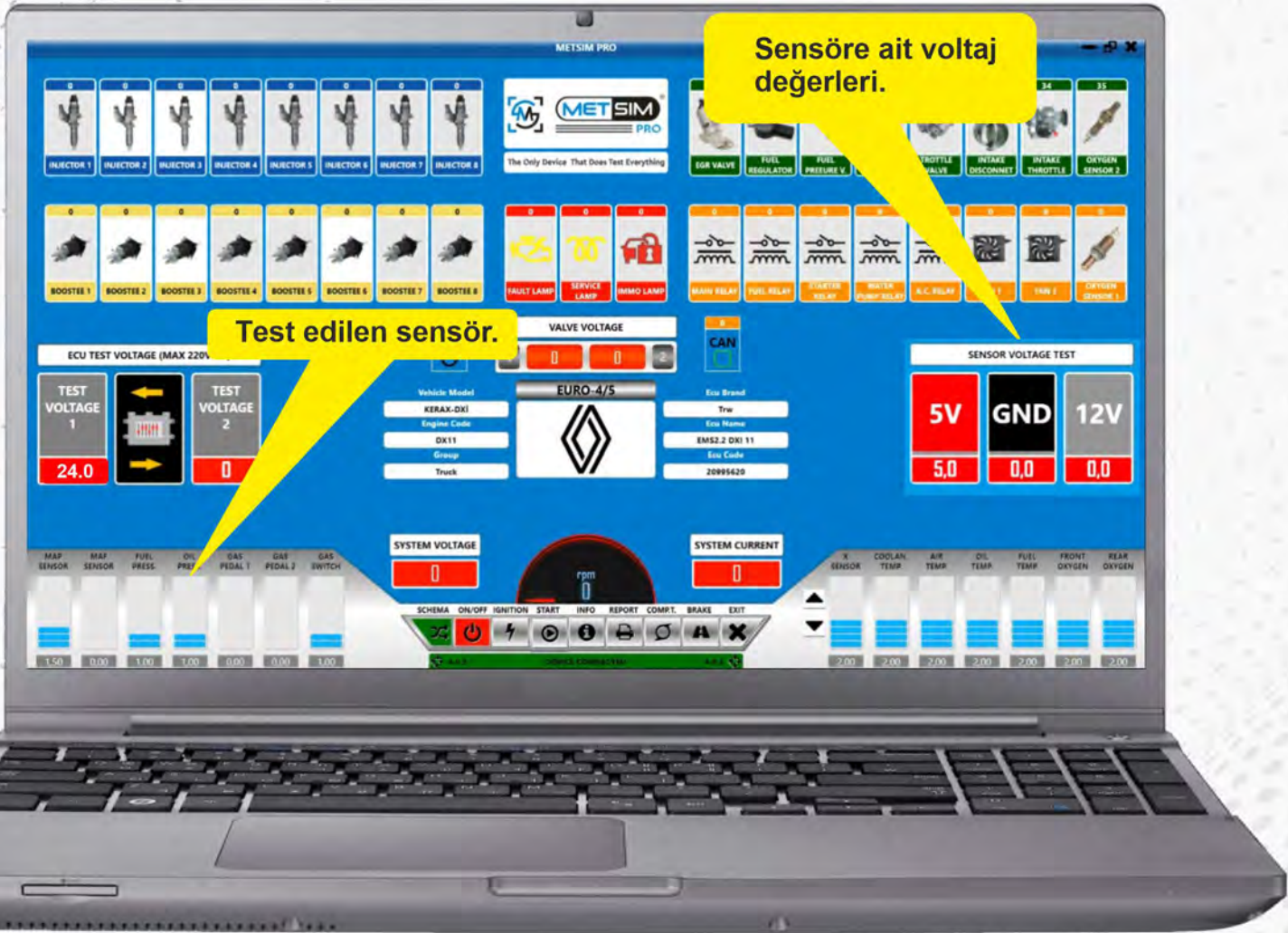
X pin uzatma kablosu

Gerekli bağlantıyı yaptıktan sonra
acceleration yardımıyla devri
yükseltiyoruz



Dijital sensör testi nasıl yapılır.

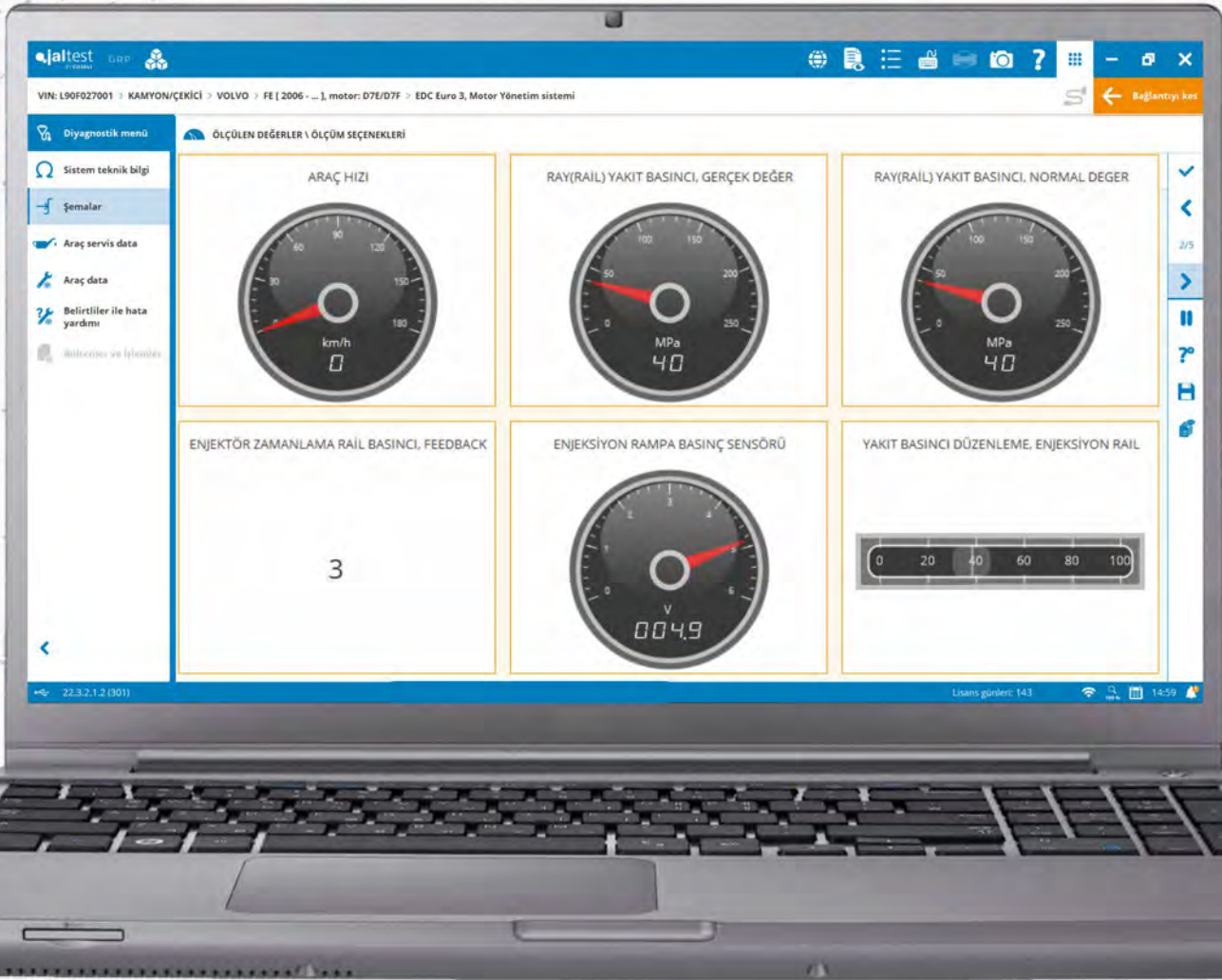
Örnek oil pressure sensor testi



Dijital sensör testi nasıl yapılır.

Örnek oil pressure sensor testi

Diagnostik cihaz yardımıyla'da ECU'ya OBD üzerinden bağlanıp oil pressure nin canlı değerlerini görebilirsiniz.



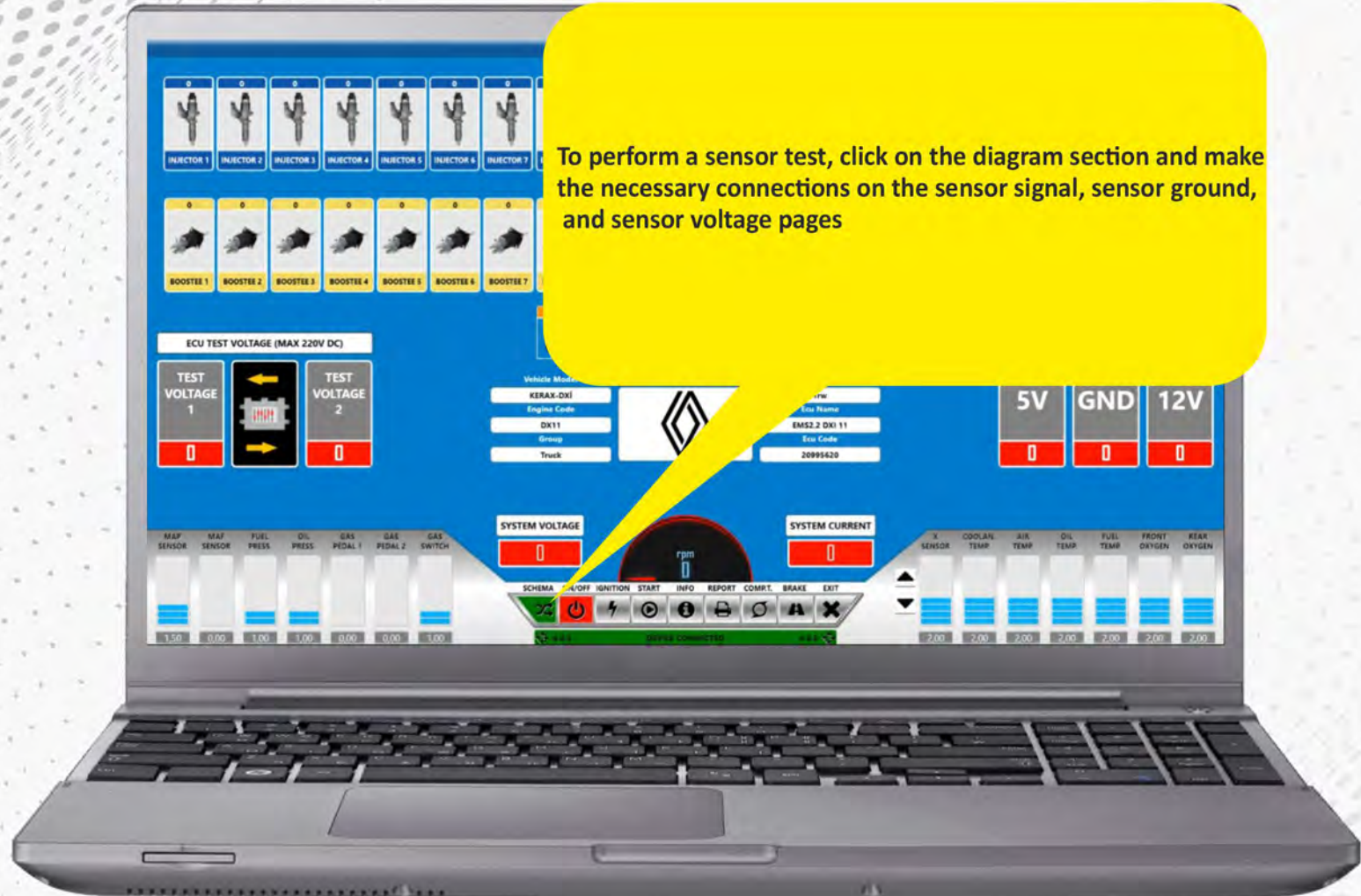


Manual Sensor Test



How do I perform a manual sensor test?

Sample Coolant Temperature Sensor Test

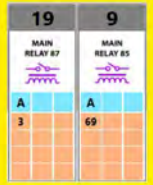


How do I perform a manual sensor test?

Sample Coolant Temperature Sensor Test

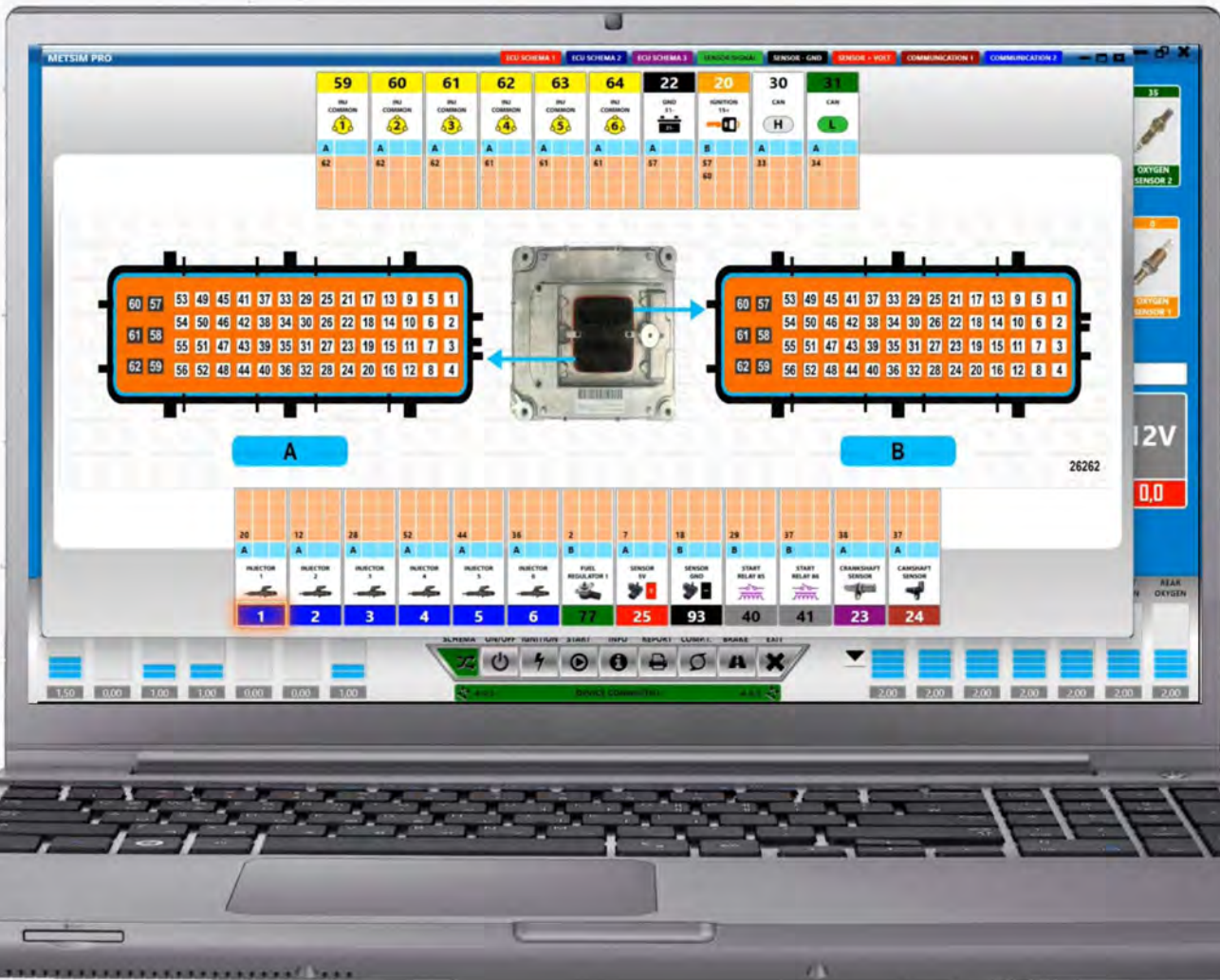
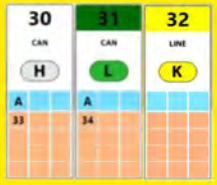
önemli

If have a schema,
 9 (MAIN RELAY 85)
 19 (MAIN RELAY 87)
 must be connect



önemli

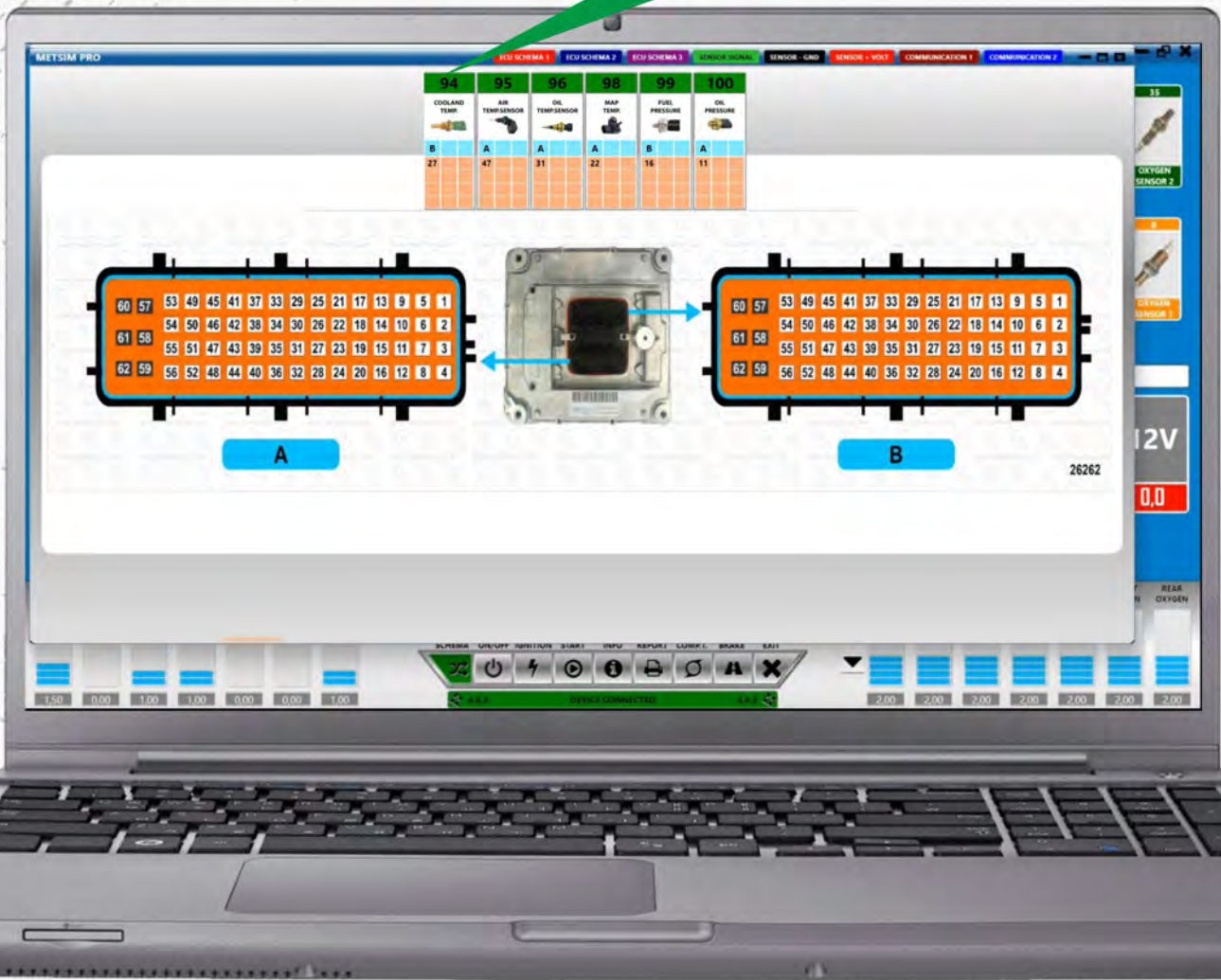
See the live values
 30 (CAN H)
 31 (CAN L)
 32 (K-LINE)
 must be connect



How do I perform a manual sensor test?

Sample Coolant Temperature Sensor Test

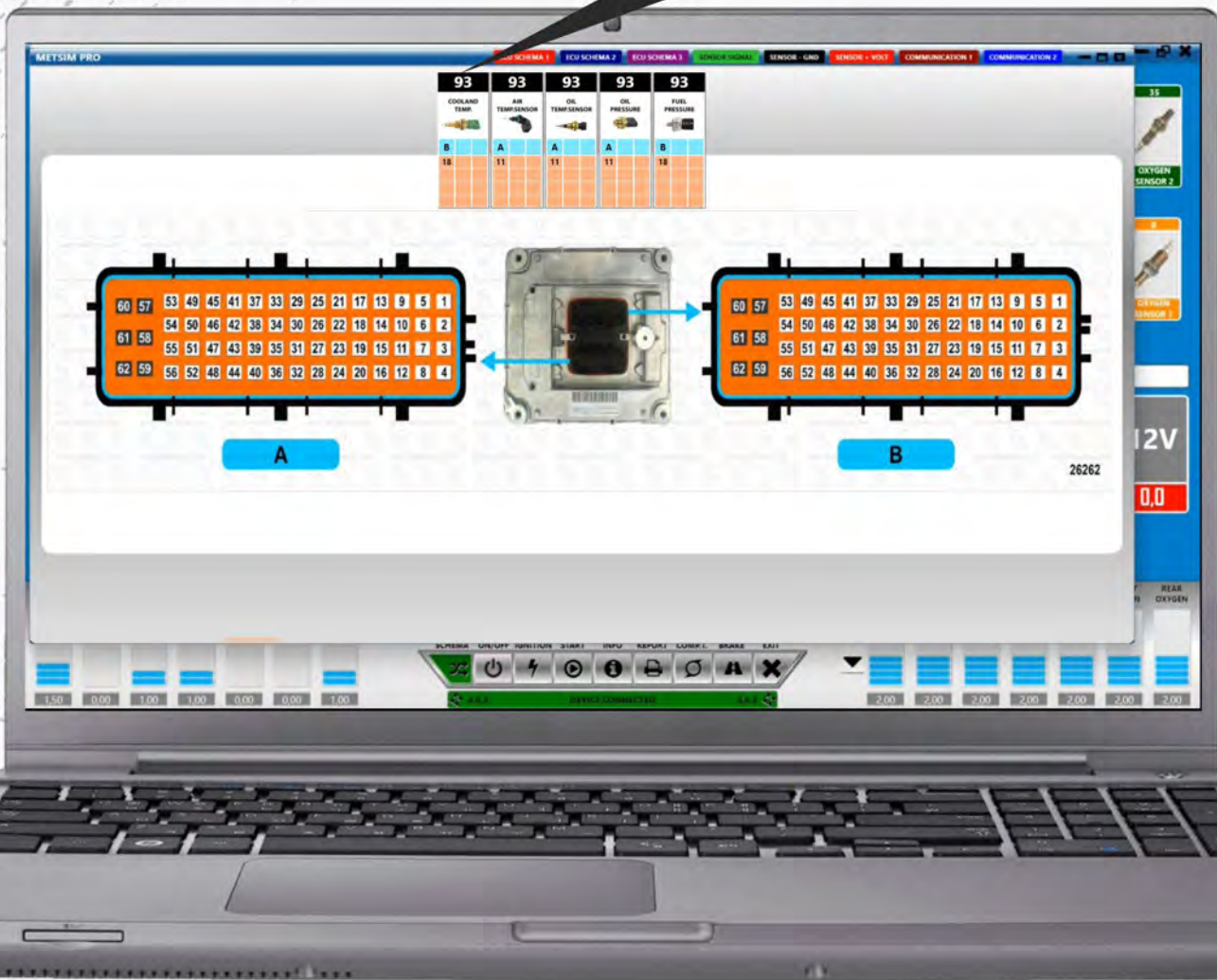
94 Cooland temp.



How do I perform a manual sensor test?

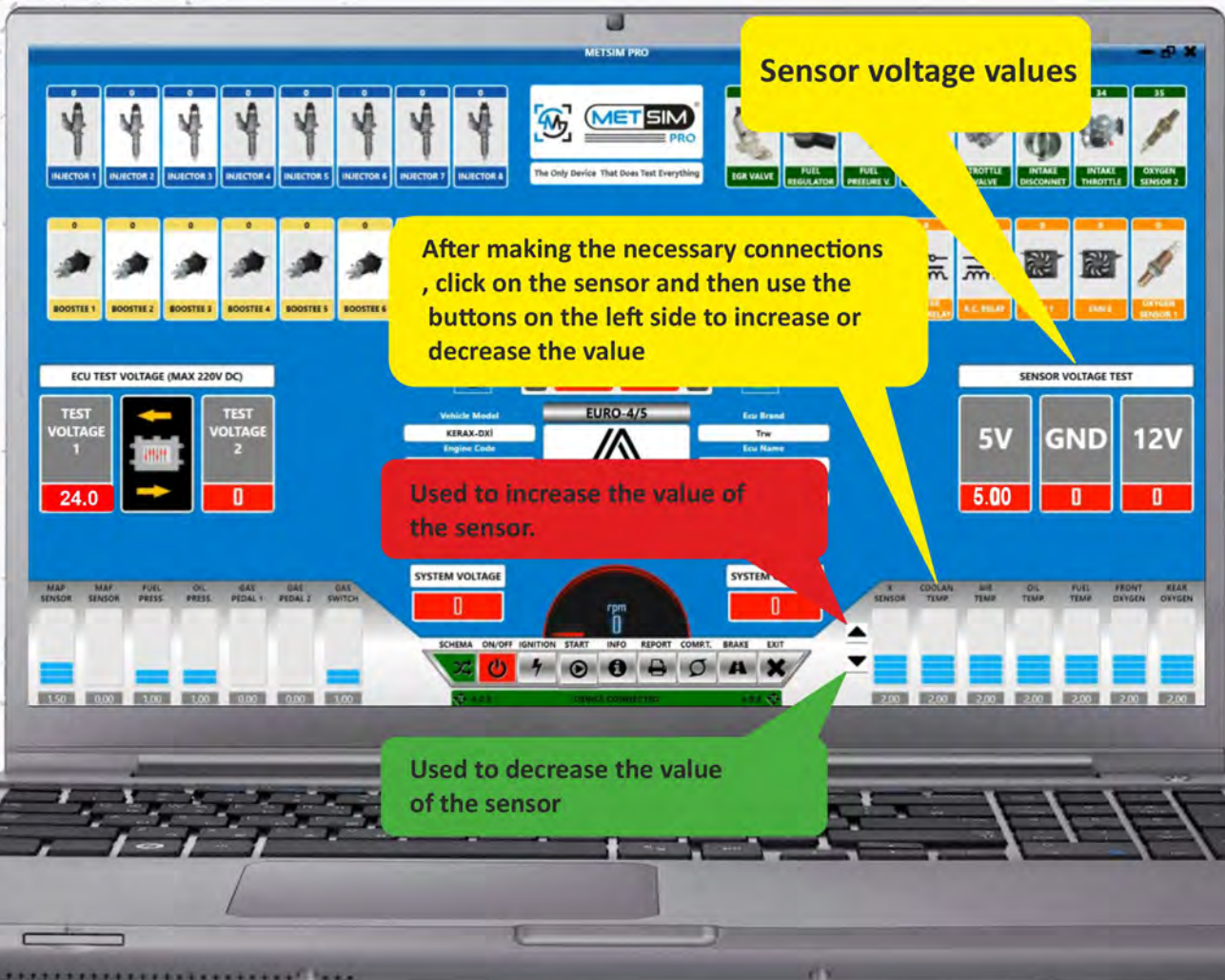
Sample Coolant Temperature Sensor Test

93 Cooland temp.



How do I perform a manual sensor test?

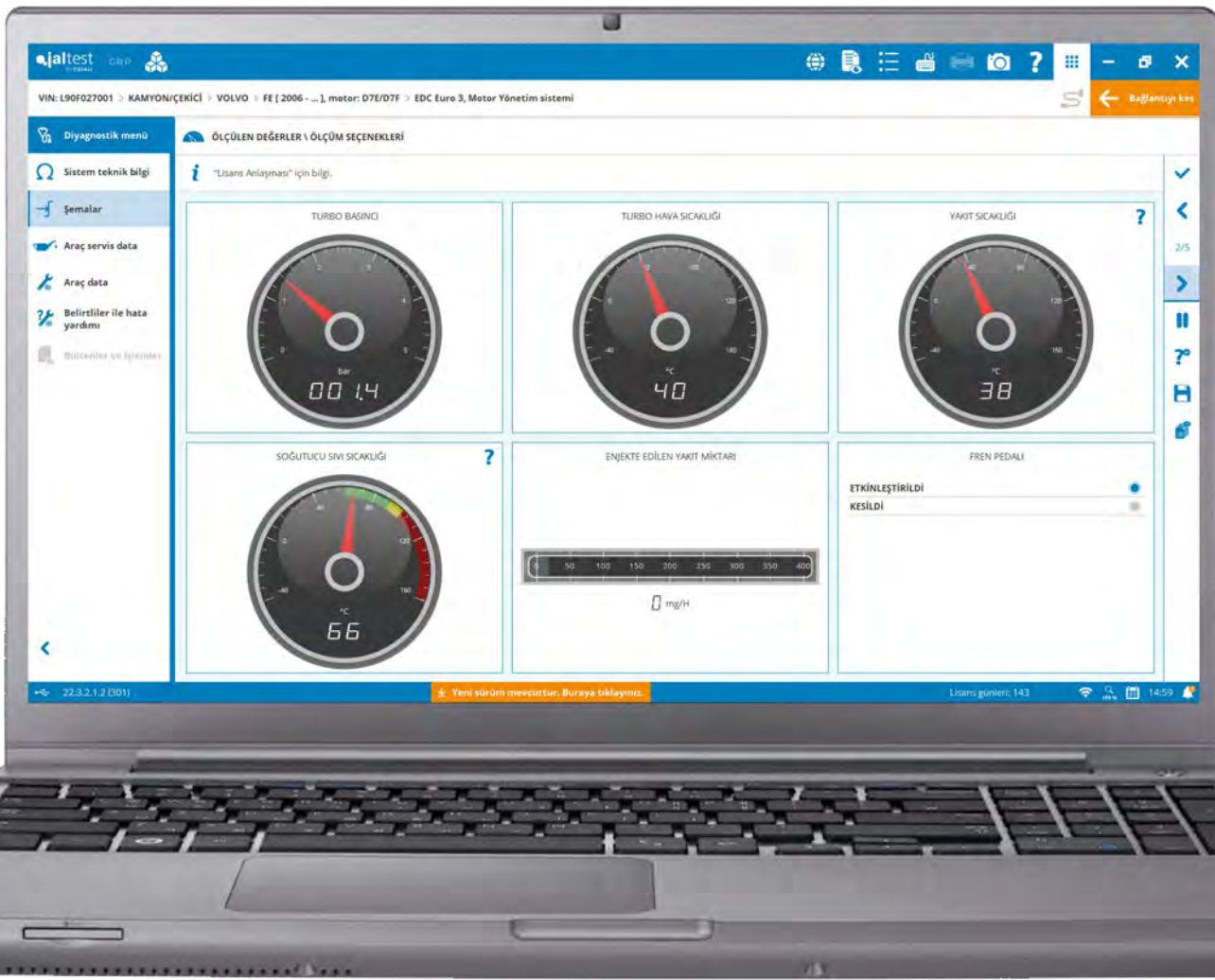
Sample Coolant Temperature Sensor Test



How do I perform a manual sensor test?

Sample Coolant Temperature Sensor Test

After increasing the value, you can also connect to the ECU with the OBD with the help of Jaltest to see the live coolant temperature values.



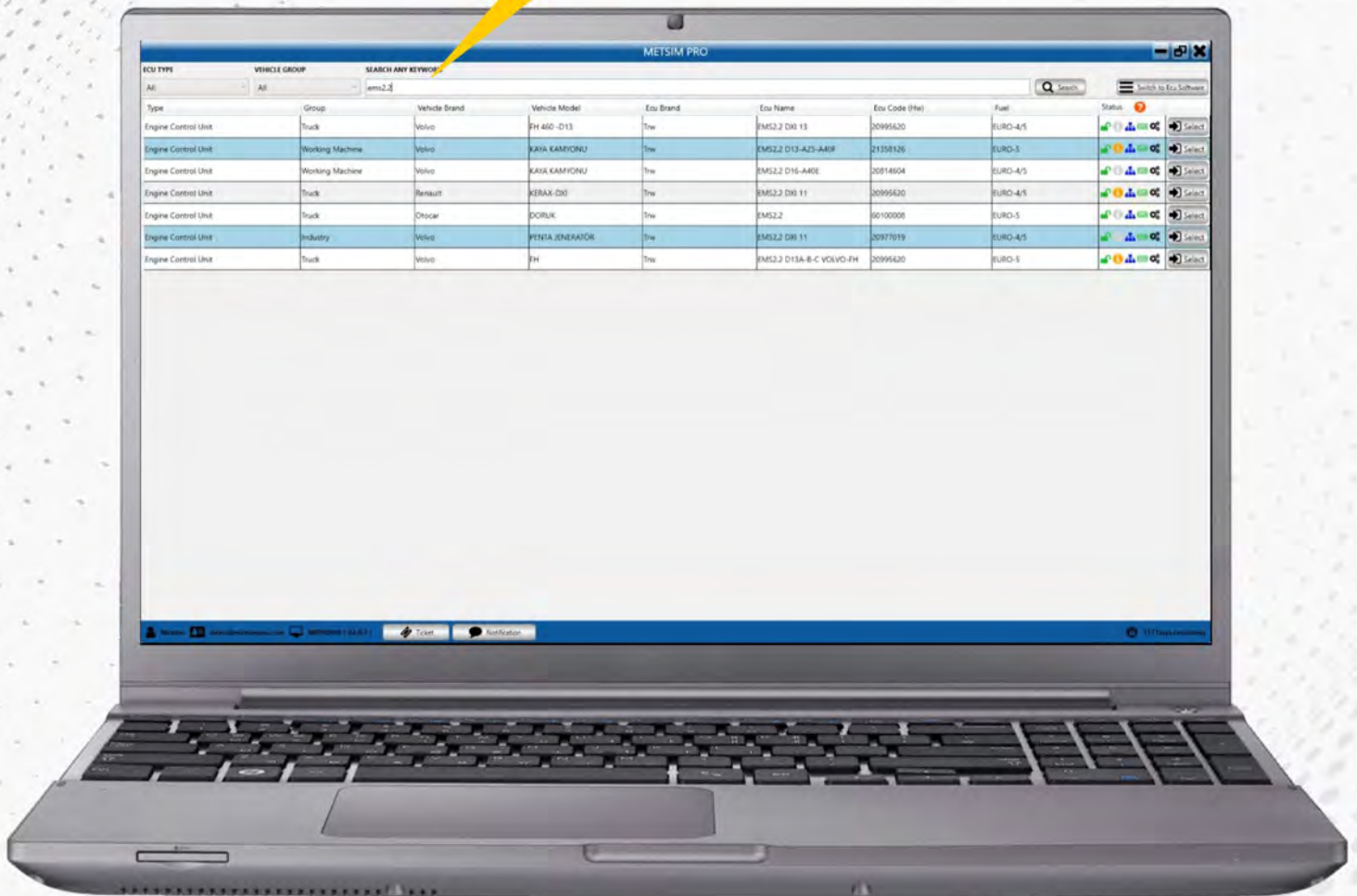


Diagnostic Connection



How do I make a diagnostic connection?

To make a diagnostic connection, type "bench" in the search box, select the ECU from the list, and then connect the communication lines.



How do I make a diagnostic connection?



How do I make a diagnostic connection?

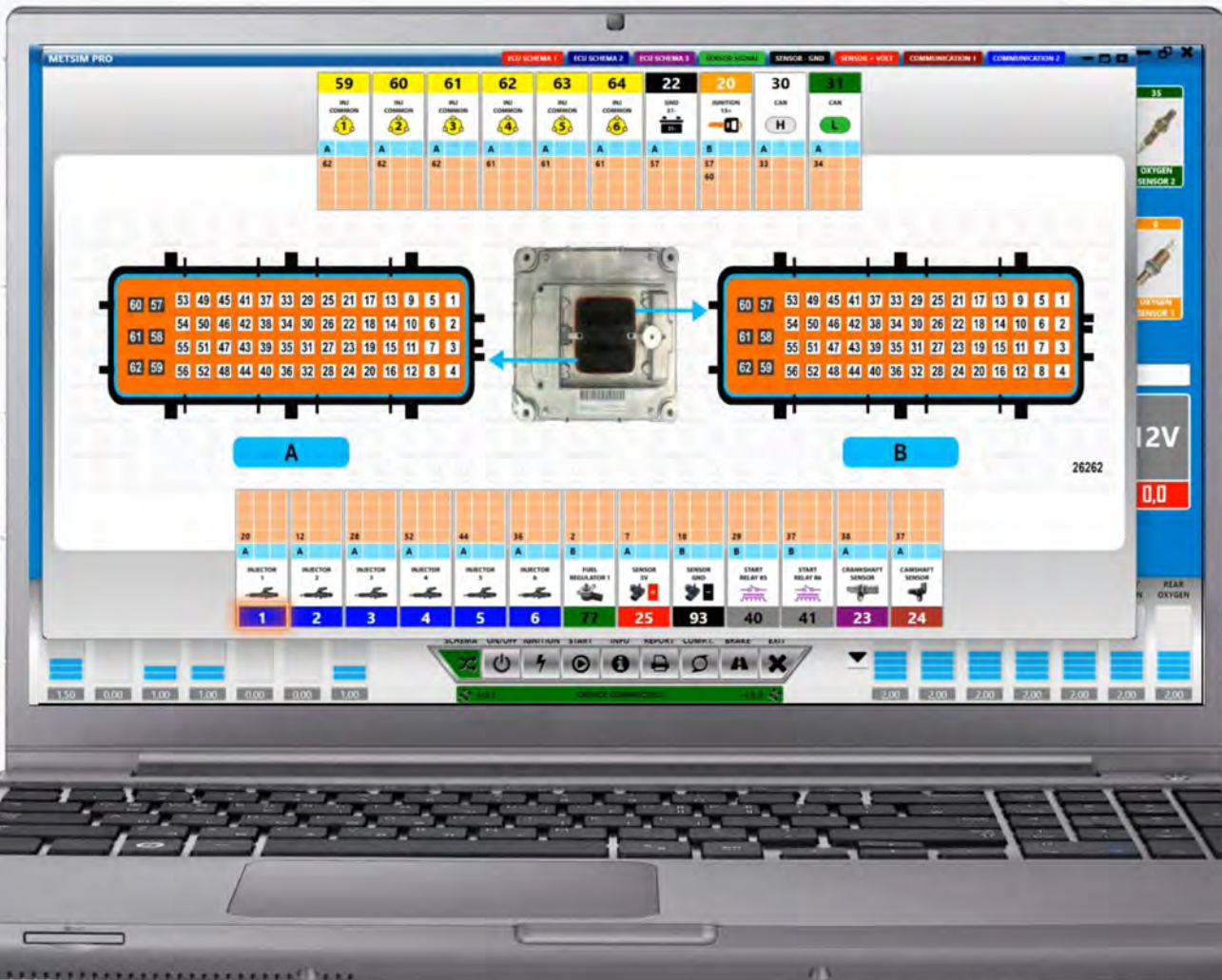
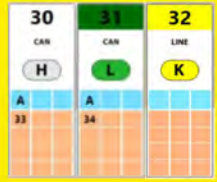
önemli

For a Diagnostic Connection
 21 (power 30+)
 22 (GND-)
 20 (IGNITION 15+)
 Şemada eğer var ise,
 9 (MAIN RELAY 85)
 19 (MAIN RELAY 87)
 must be connect



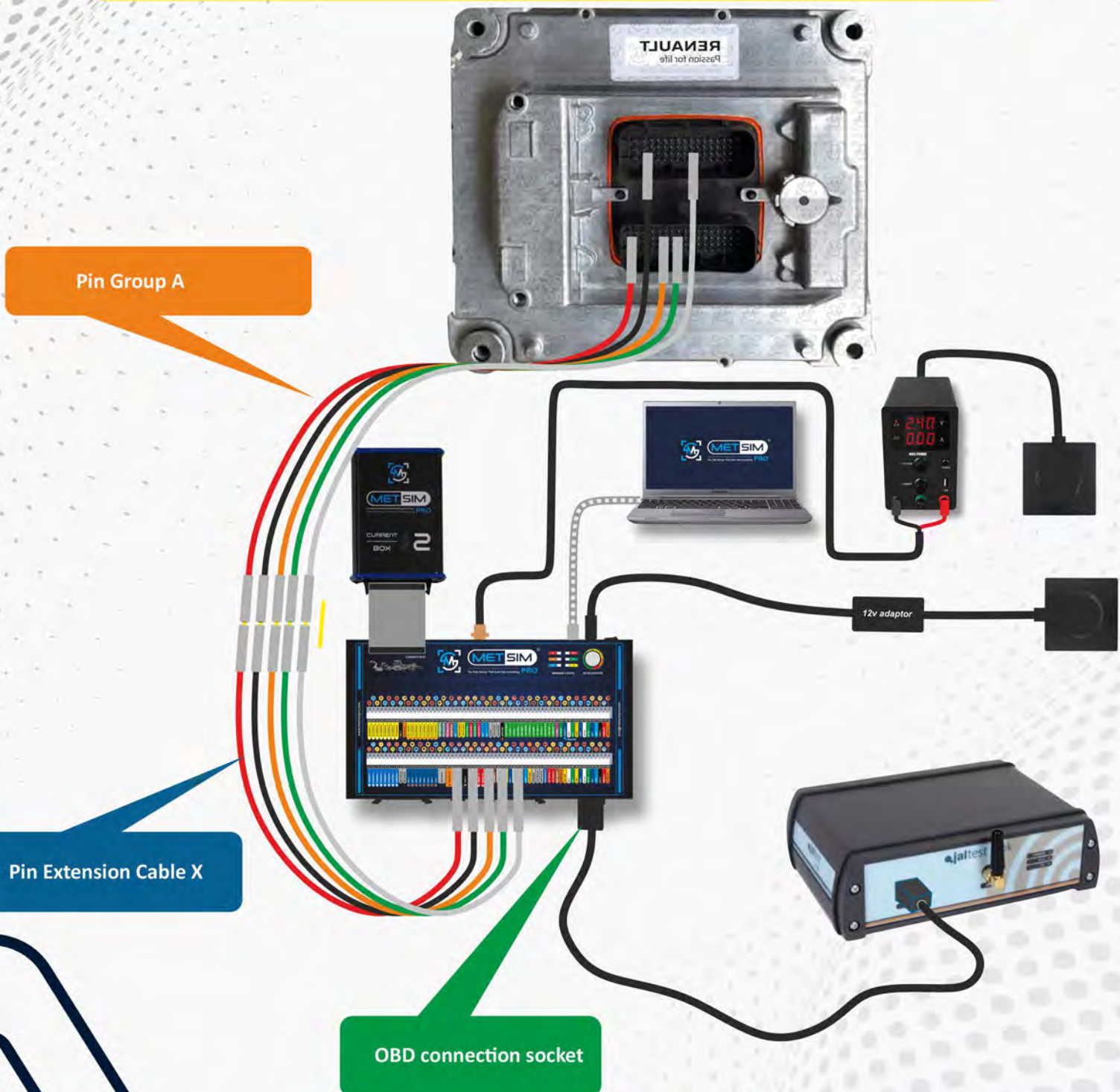
önemli

communication lines
 30 (CAN H)
 31 (CAN L)
 32 (K-LINE)
 must be connect



How do I make a diagnostic connection?

After making the necessary connections, press the on/off button and then the power button to connect to the ECU with the diagnostic device connected



How do I make a diagnostic connection?



How do I make a diagnostic connection?

Then, as in practice, select the vehicle information from the program with the diagnostic device and connect to the ECU.

