

MAGIC Bench Connect Evo Lite



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Content of package



Numbers below refer to the numbers in package you receive.

1. Magic Bench Connect EVO Lite
2. Smart Bench Right and Left cables
3. OBD Y cable
4. Magic Eraser cable
5. Universal Adapter for Magic Bench Connect EVO
6. Power Cable for Magic Bench Connect EVO

OPTIONAL:

- CAN Gateway for W164/W212/W251
- Dashcontrol
- EIS/ESL Testing tool for Magic Bench Connect EVO
- Professional ECU/Gearbox/ISM/DSM/ELV Adapters Set
- Easy ECU Adapters Set

Magic Bench Connect EVO Lite



Magic Bench Connect EVO is main device that allows you to connect it to modules on bench in order to test their functionality.

Other items in the package can be connected to this device to extend its functionality.

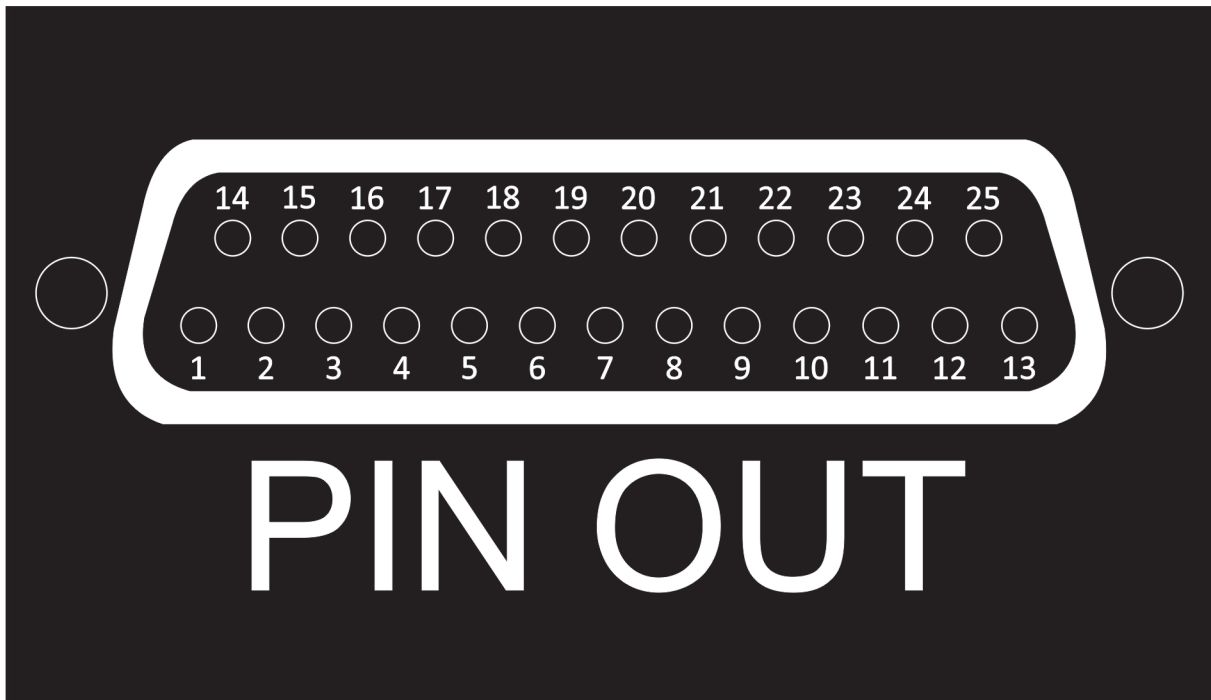
Functions



Functions

- 1 - Volts outgoing from Magic Bench Connect EVO.
- 2 - Amps outgoing from Magic Bench Connect EVO.
- 3 - Ignition power button that you can switch. It powers up with +12V pins 17 and 18 of the four sockets. **GREEN** light indicates that the ignition power is on.
- 4 - Light power button that you can switch. It powers up with +12V pin 21 of the four sockets. **WHITE** light indicates that the light power is on.
- 5 - Magic Eraser button. By turning it on you launch Magic Eraser function of the device. **BLUE** light indicates that the function is on.
- 6 - Update LED of Magic Eraser. It indicates with **RED** color when you try to update firmware version of Magic Eraser.
- 7 - Power LED of Magic Eraser. **GREEN** light indicates that the Magic Eraser is on.
- 8 - Four main sockets of Magic Bench Connect EVO. You connect cables and adapters that are within the package to connect anything on bench.
- 9 - Main power button to switch on the whole device.
- 10 - Bottom OBD **female** socket. You can connect OBD Y cable, any diagnostic tool and others to that socket.
- 11 - Top OBD **male** socket. You can connect Magic Eraser cable, OBD Y cable, any diagnostic tool and others to that socket.

PIN OUT



1...3 - CUSTOM CONFIG

4,5 - GND

6 - CAN-H

7 - K-LINE

8...13 - CUSTOM CONFIG 14

- CAN-L

15 - L-LINE

16 - POWER (+12V)

17 - IGNITION POWER (+12V)

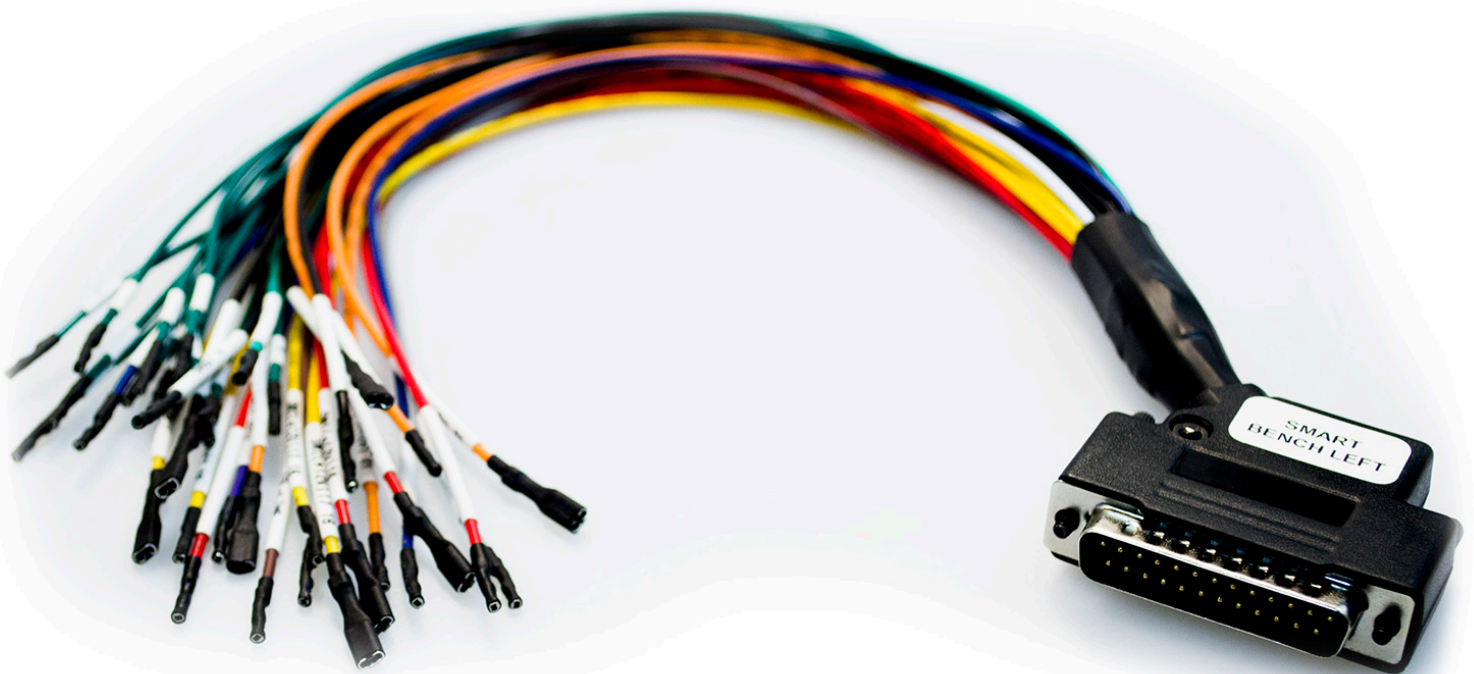
18 - IGNITION POWER (+12V)

19...25 - CUSTOM CONFIG

Smart Bench Cables



Smart Bench Cables

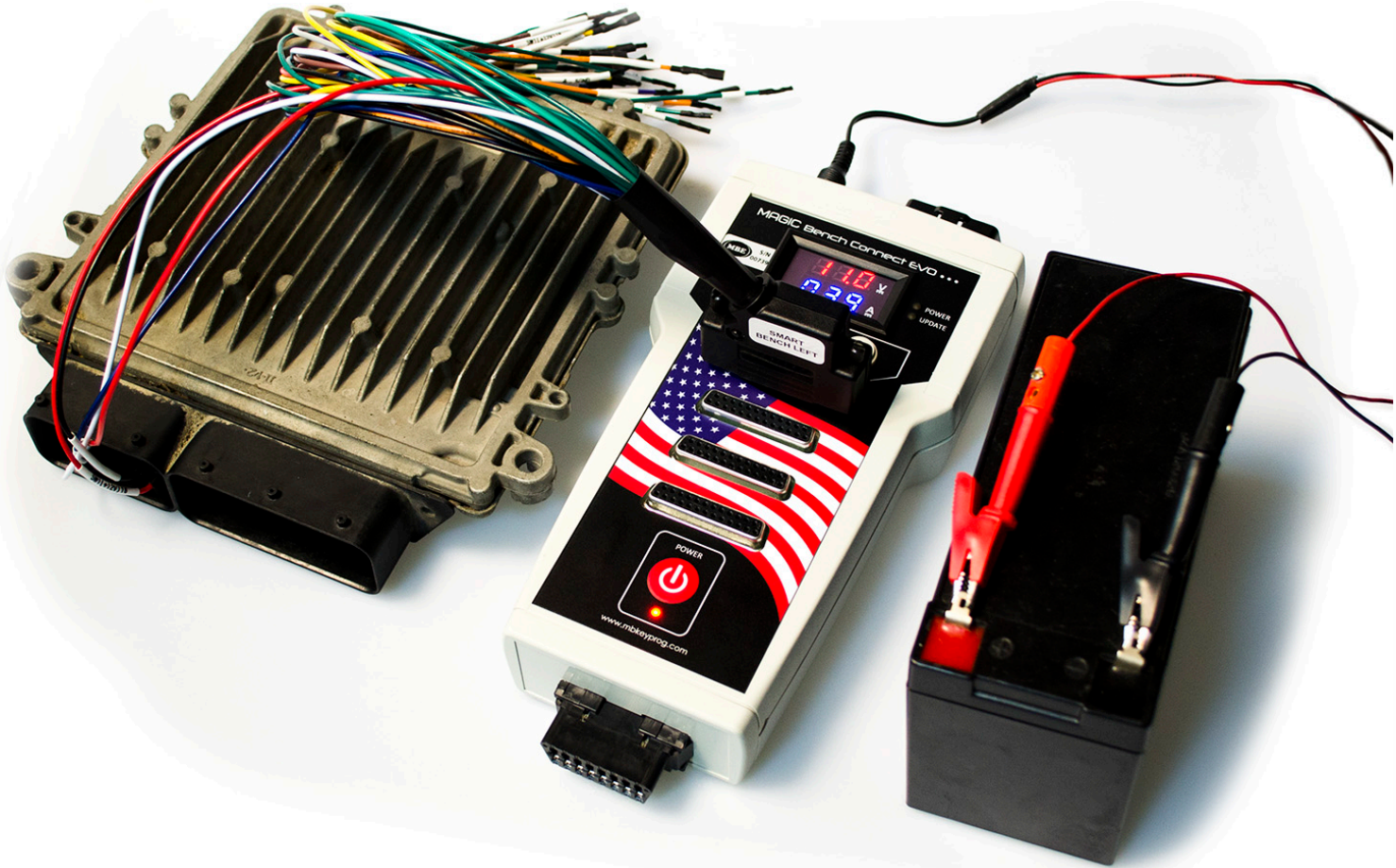


The package comes with two Smart Bench Cables. The cable is used with connection to Magic Bench Connect EVO to connect to any kind of module, to pins referring to the PIN OUT on the previous page. The cables are left and right which let you connect modules on your bench on both sides of the device, which makes it more tidy.

Connection example



Example of Smart Bench cable connected ECU on bench.



OBD Y Cable



OBD Y Cable



OBD Y Cable is an extension cable that you can connect to module with OBD socket to simulate the connection on bench.

You can connect this cable to both on the top and on the bottom OBD sockets of Magic Bench Connect EVO.

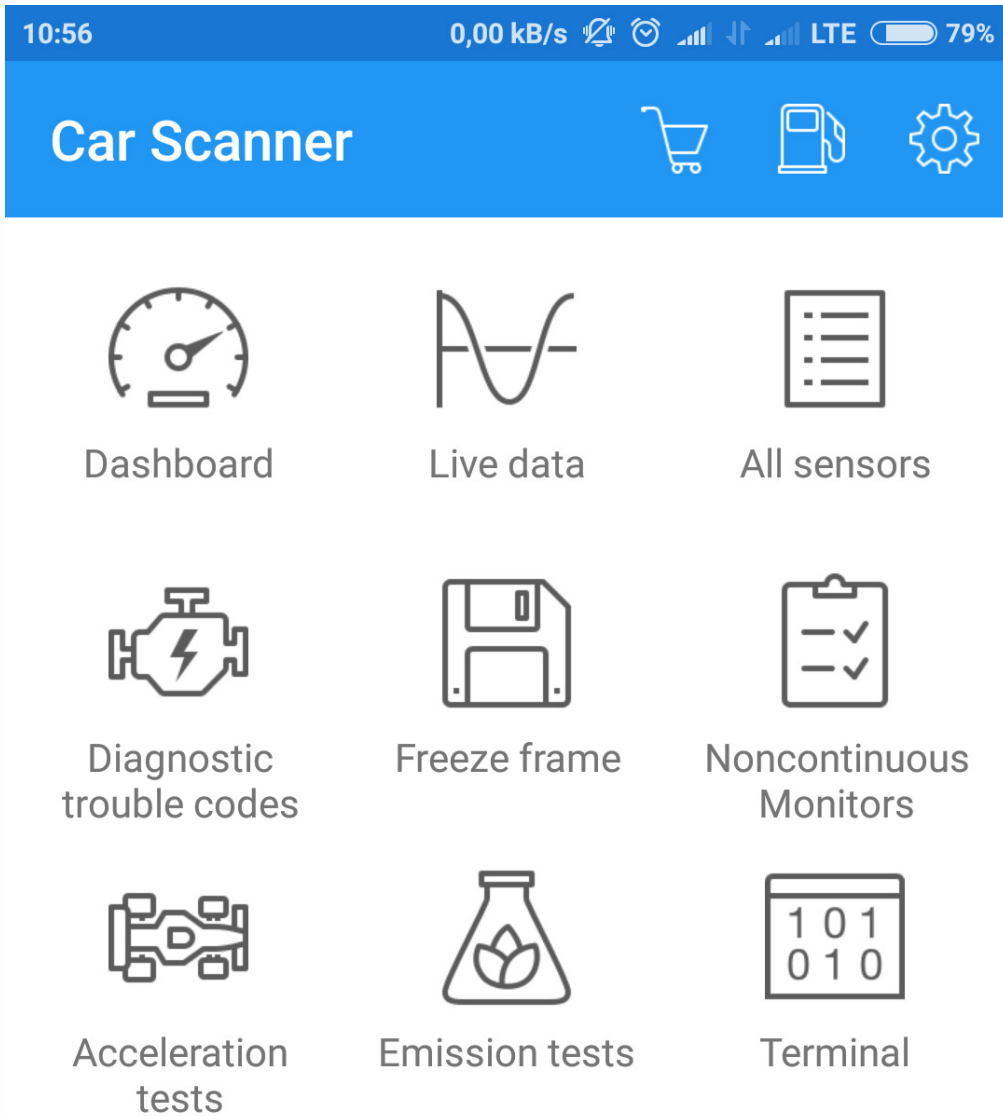
Example connection

Example connection of Magic Bench Connect EVO as a diagnostic tool, using OBD Y cable and an Android app to do the common diagnostic tests.



Android application example

You may use free to use applications that may work with ELM 327 protocols. Example is shown below:



ELM connection:

Connected

ECU connection:

Connected

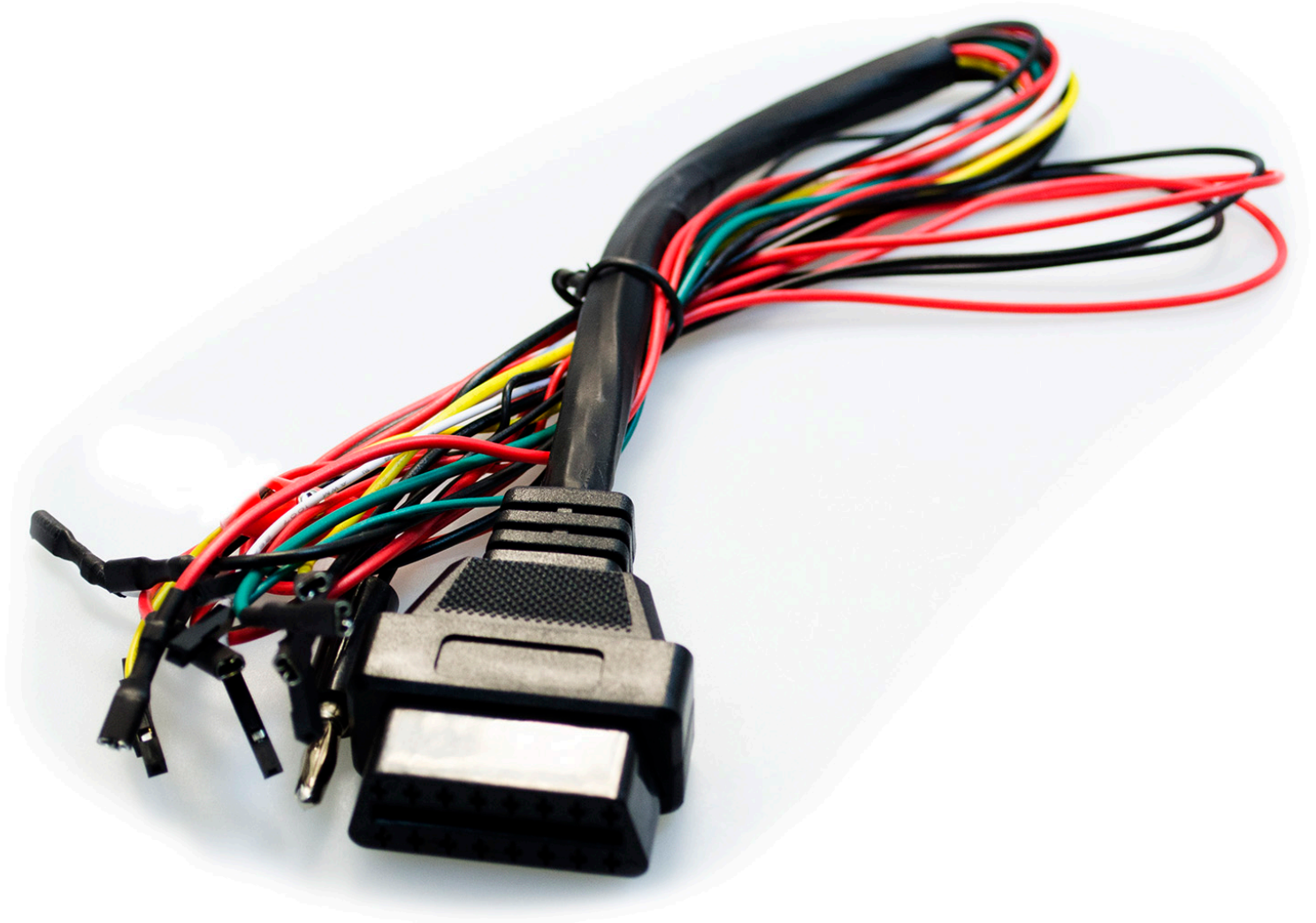
CONNECT

DEMO

Magic Eraser Universal Cable



Magic Eraser Universal Cable



Magic Eraser Universal Cable is used to neutralize ECU's, gearboxes, ESM/DSM modules, ELV's with use of MBHash application.

You connect the cable to the top OBD socket and connect cables based on our connections on next pages or on your custom connection setup.

Magic Eraser OPTIONAL Cable

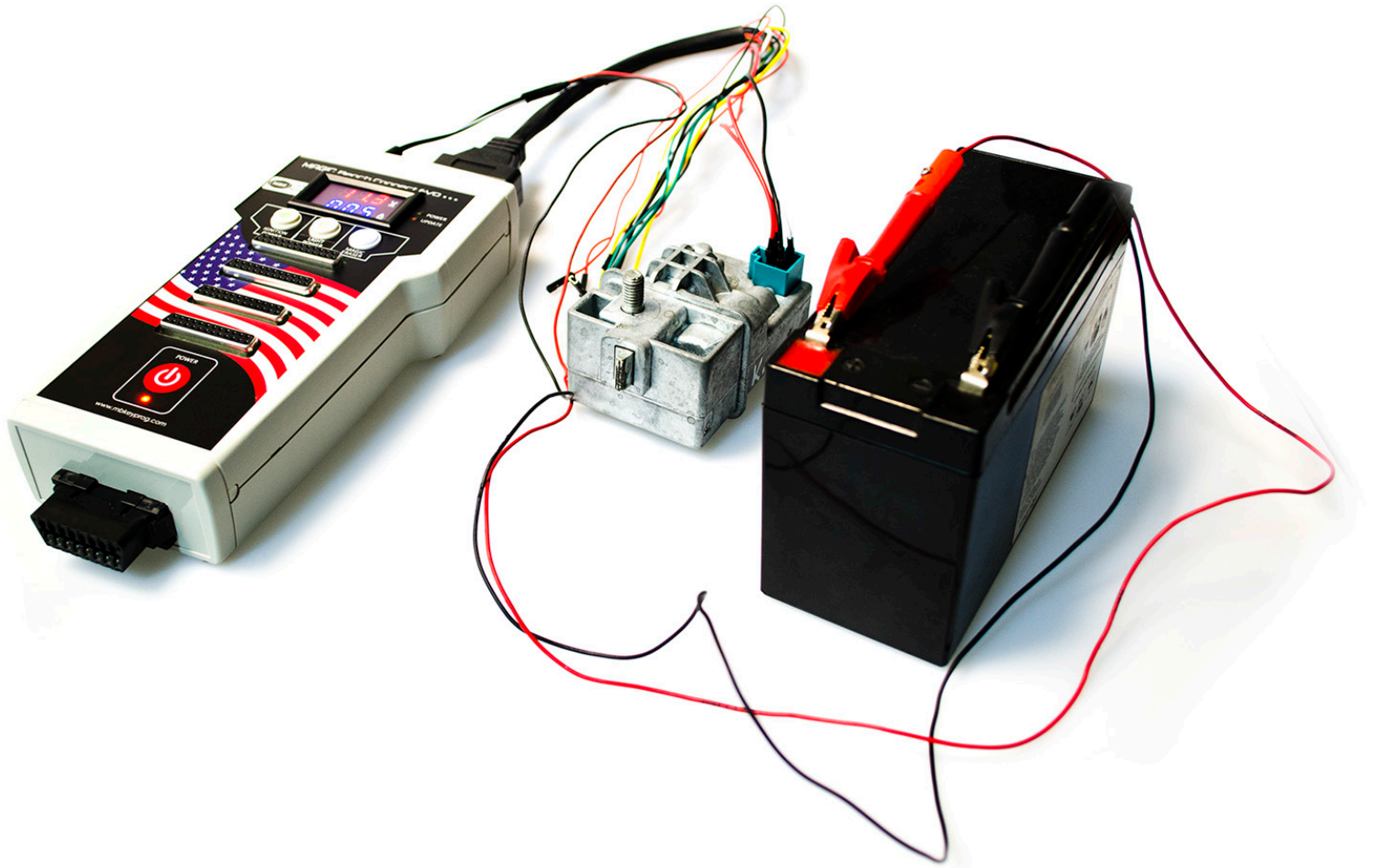


ISM/DSM CABLE + VGS2 NAG2(3) + W204 ELV is an OPTIONAL cable for Magic Bench Connect EVO for an easy connection of ISM/DSM modules, VGS2 NAG2(3) gearboxes and W204 ELVs.



Example connection

Example connection of Magic Bench Connect EVO to W204 ELV using Magic Eraser cable through top OBD socket.



MBHash Application

1. Application setup. www.sonderhash.com registration.

Open Google Play Store and find MBHash application. When you see MBHash red icon choose INSTALL option. Setup process will take from 30 seconds to 2 minutes depending on Internet connection quality.

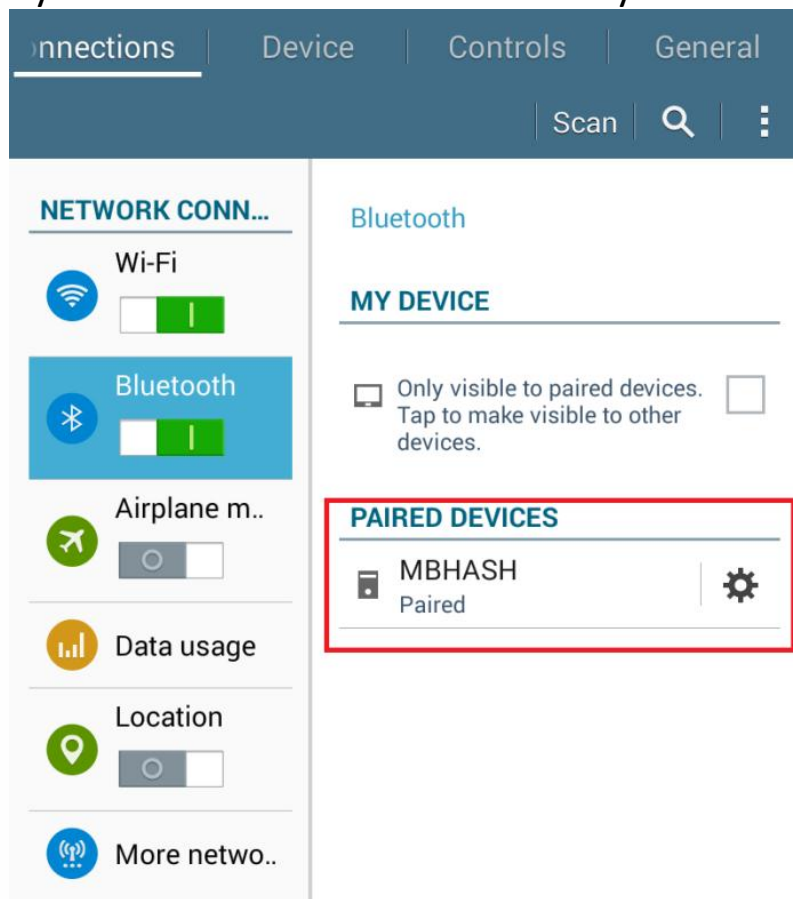
To create your account on server open www.sonderhash.com page in your browser and choose „Register Account” option. Provide your E-mail address and password. Press „Register” button. Your account will be activated within 24 hours. You get 3 tokens after account activation.

1.1 What is “token”?

Token is electronic counter been used when you work with MBHash application. For ex. reset of one ELV or one ECU will write off your account one token. You can buy additional tokens at any time – at price from 30 to 50 EU depending on ordered quantity.

Before start of work.

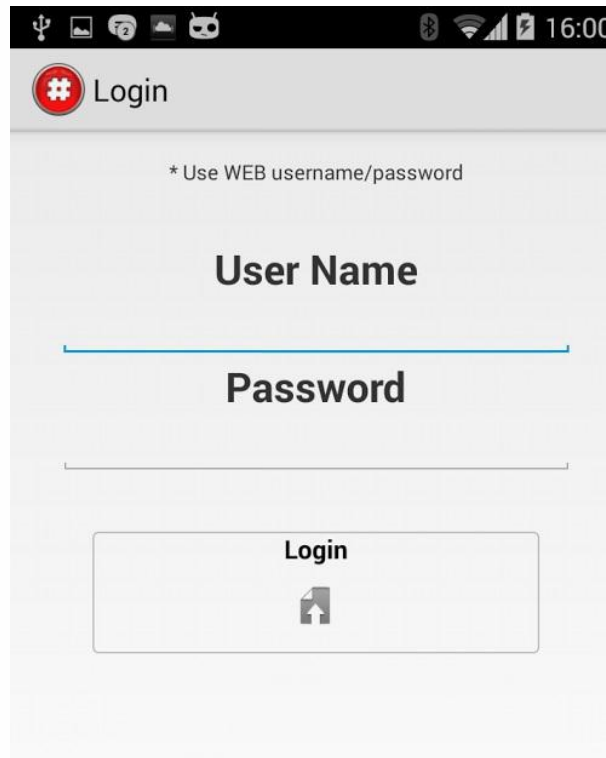
Power up Magic Bench Connect EVO and connect Magic Eraser cable (4)(Page 11). Click Magic Eraser button on the device. Blue LED will start to blink on the device – it means adapter is ready to pairing with other Bluetooth devices. Choose Bluetooth option in Setup of your Android device. Find „MBHASH” device in the list of devices. Tap it to pair. Confirmation PIN code is 1234. „Paired” status inform you about successfully synchronization. Now set is ready to work.



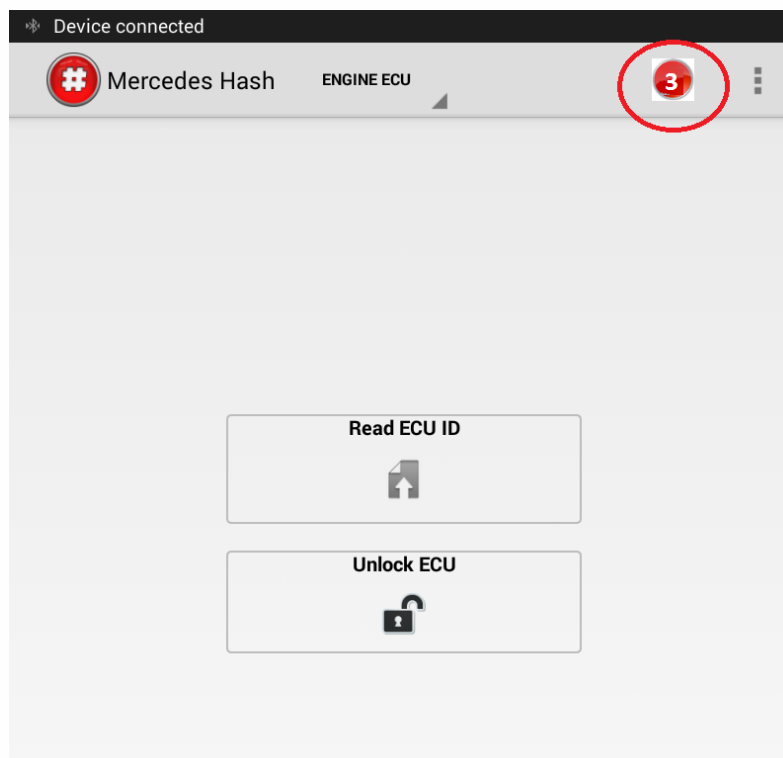
Operation example

2. MBHash operation.

Run the application – tap MBHash red icon. Enter login and password – the same you used for sonderhash.com registration.

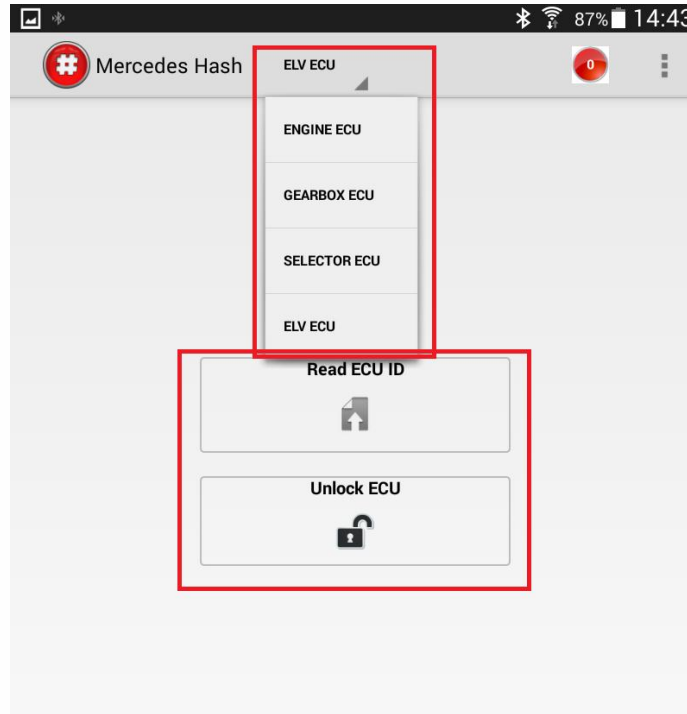


If you log in correctly and if your sonderhash.com account is activated you see tokens quantity in top right conner of the application. Entering will be done automatically from the next application running.

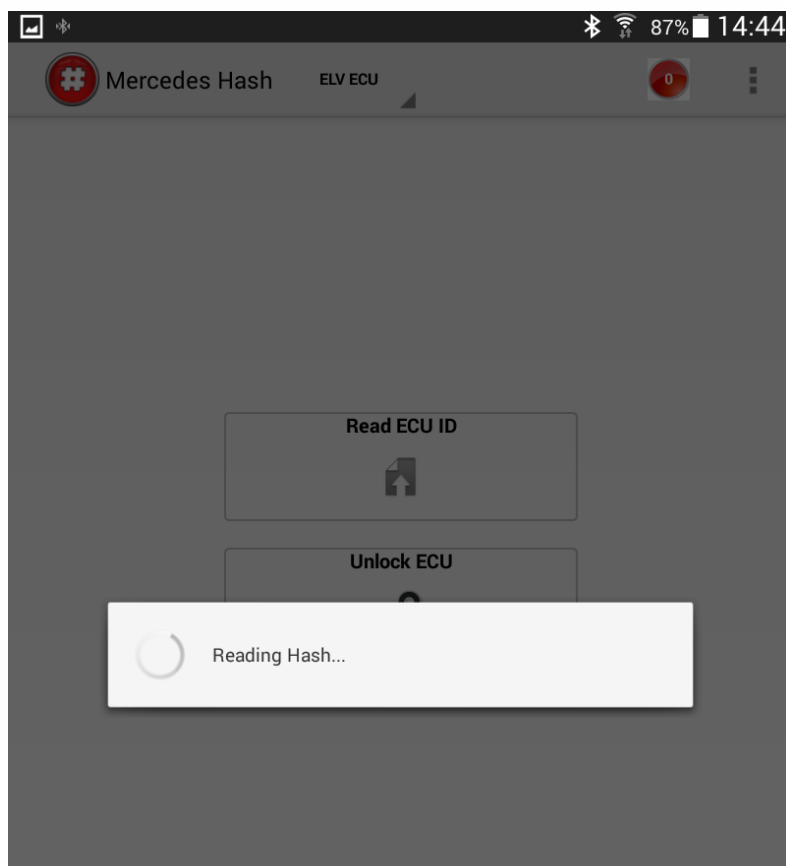


Operation example

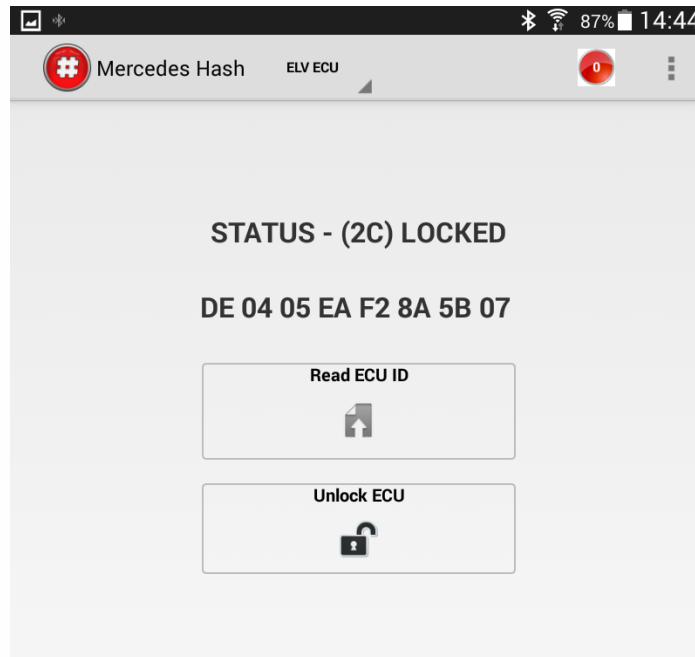
Choose the ECU type using dropdown option on the top of application. Then tap READ ECU ID button to connect with ECU.



You will see READING HASH process if the adapter connected properly to the ECU (look please „Magic Eraser Connection Manual” pdf document). Then ECU data will be displayed: status and hash.

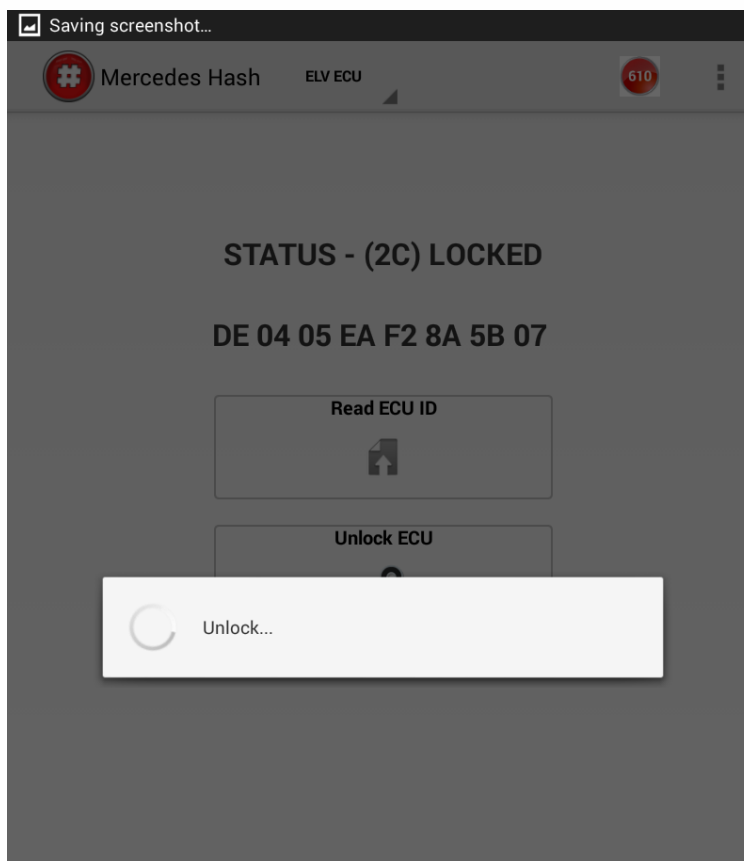


Operation example



Status Locked – means the ECU is personalized and activated – could not be programmed to the other car.

Choose UNLOCK ECU option to reset (renew) the ECU. Process' status UNLOCK will start to progress – your device connects with server now and calculate hash to unlock hash, then it resets the ECU. Internet connection and one token as minimum on your account are required of course at the moment. One token will be written off from your account after Unlocking finishing.

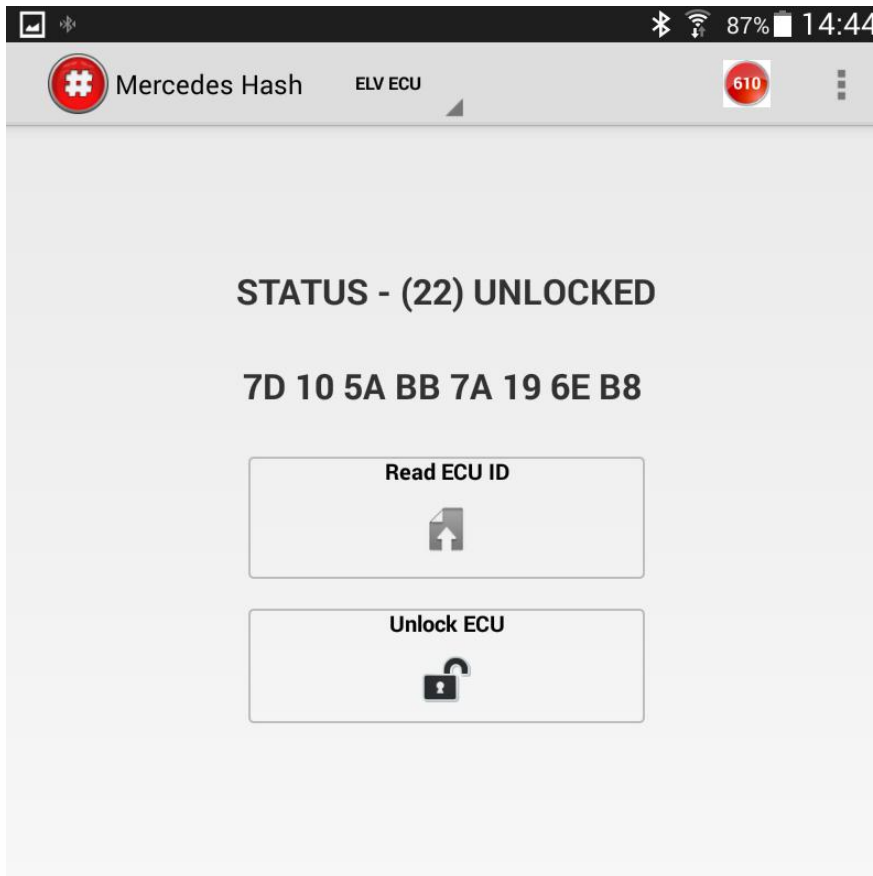


Operation example



Unlock process takes about 30 seconds. It depends on Internet connection quality. New status of the ECU will be displayed on after unlocking.

Status UNLOCKED - it means the ECU is at factory mode and ready to be re-programmed to the other car.

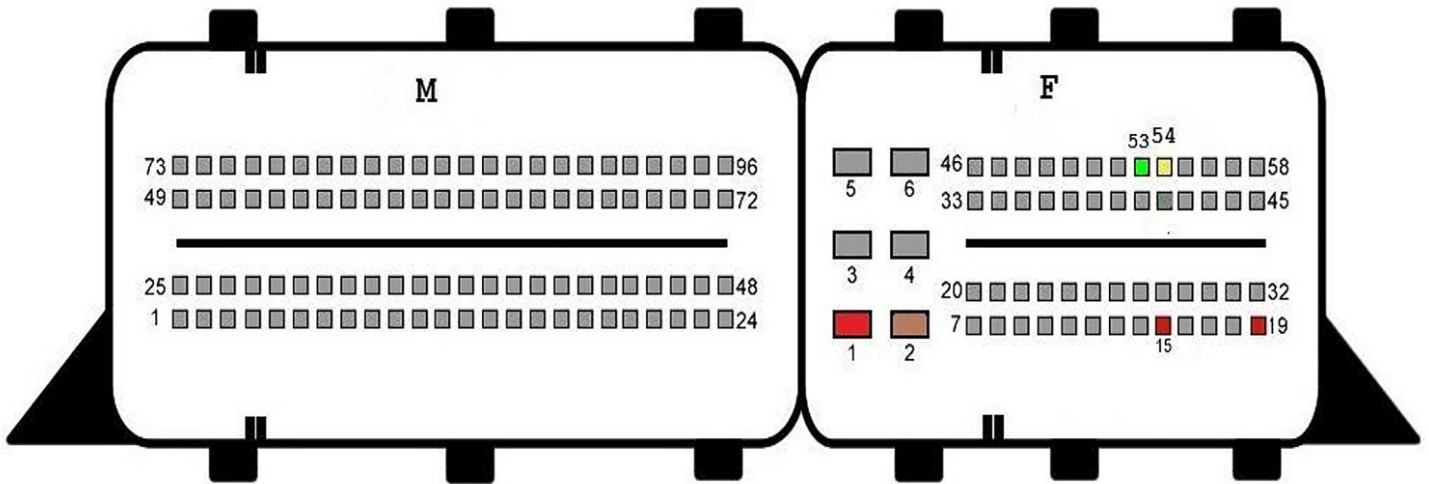


Connection schemes

Connection shows front of the ECU sockets.

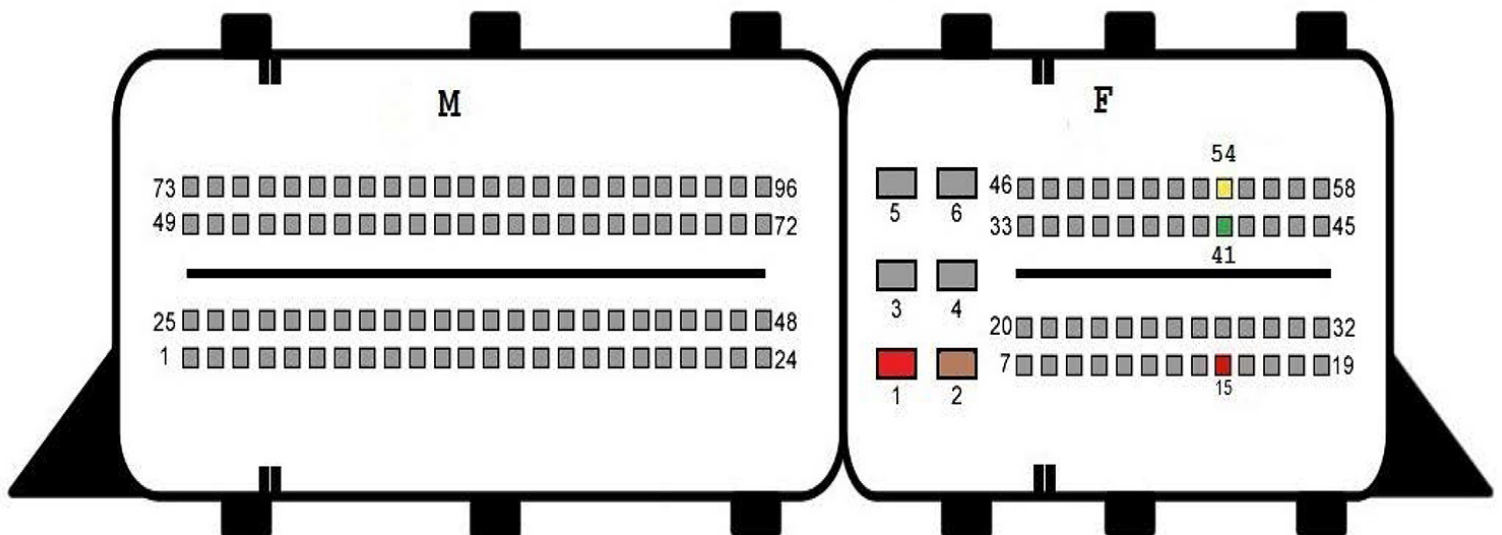
CRD . 11

F-2	GND
F-1,15,19	+12V
F-53	CAN-H
F-54	CAN-L



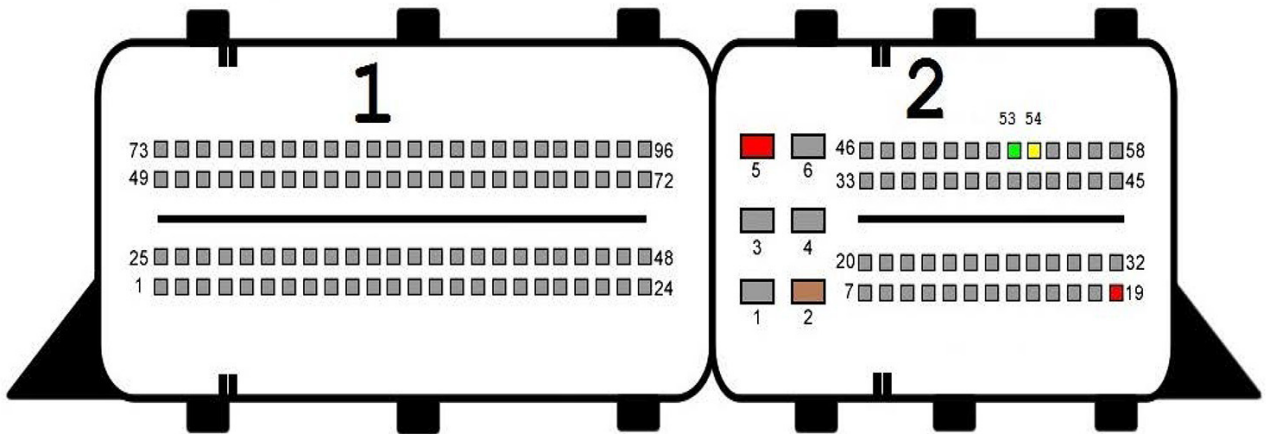
CRD2 . xx

F-2	GND
F-1,15	+12V
F-41	CAN-H
F-54	CAN-L



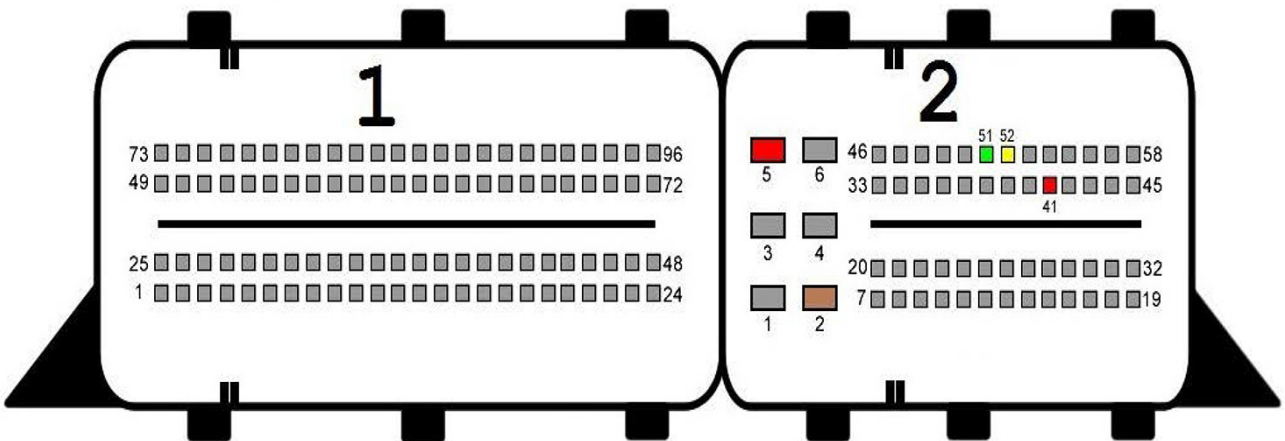
Connection schemes

CR3 . xx



2-2	GND
2-5, 19	+12V
2- 53	CAN-H
2- 54	CAN-L

CR4 . xx

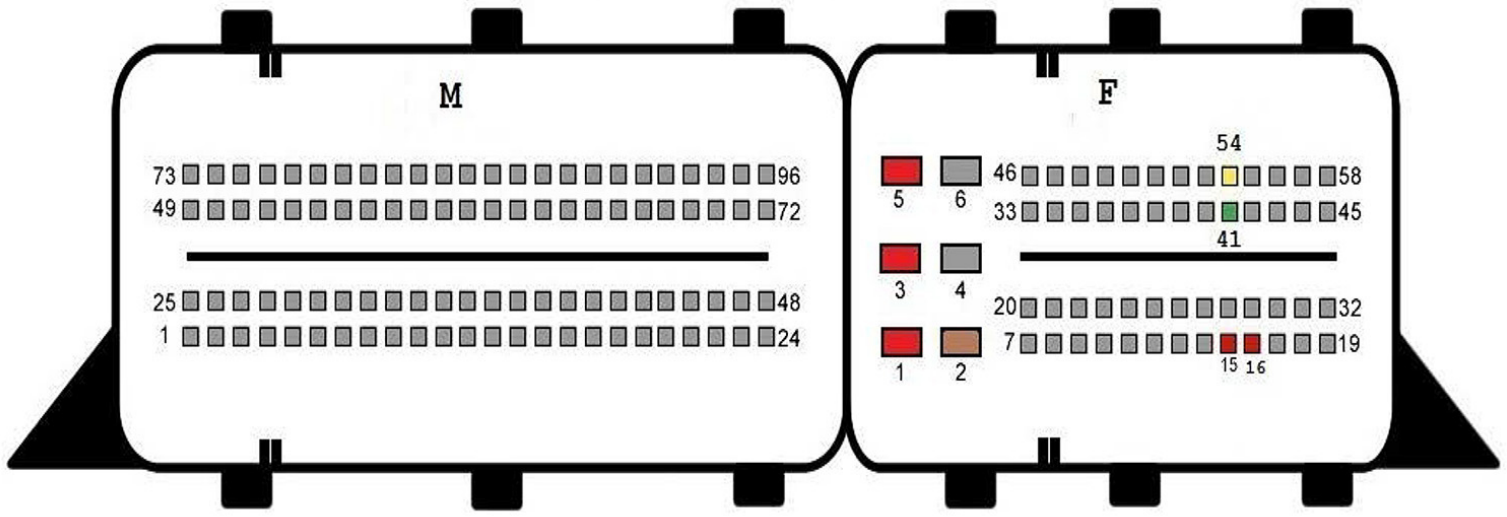


2-2	GND
2-5, 41	+12V
2-51	CAN-H
2-52	CAN-L

Connection schemes

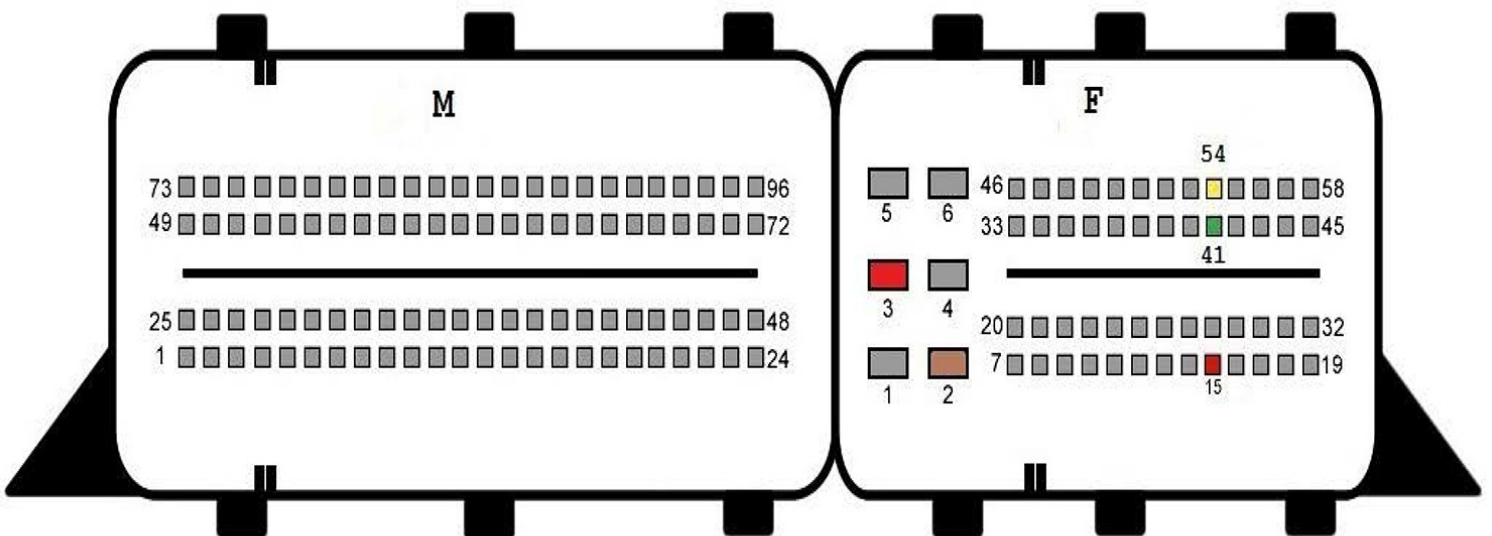
CR5

F-2	GND
F- ^{1,3,5,} 15,16	+12V
F-41	CAN-H
F-54	CAN-L



CR6

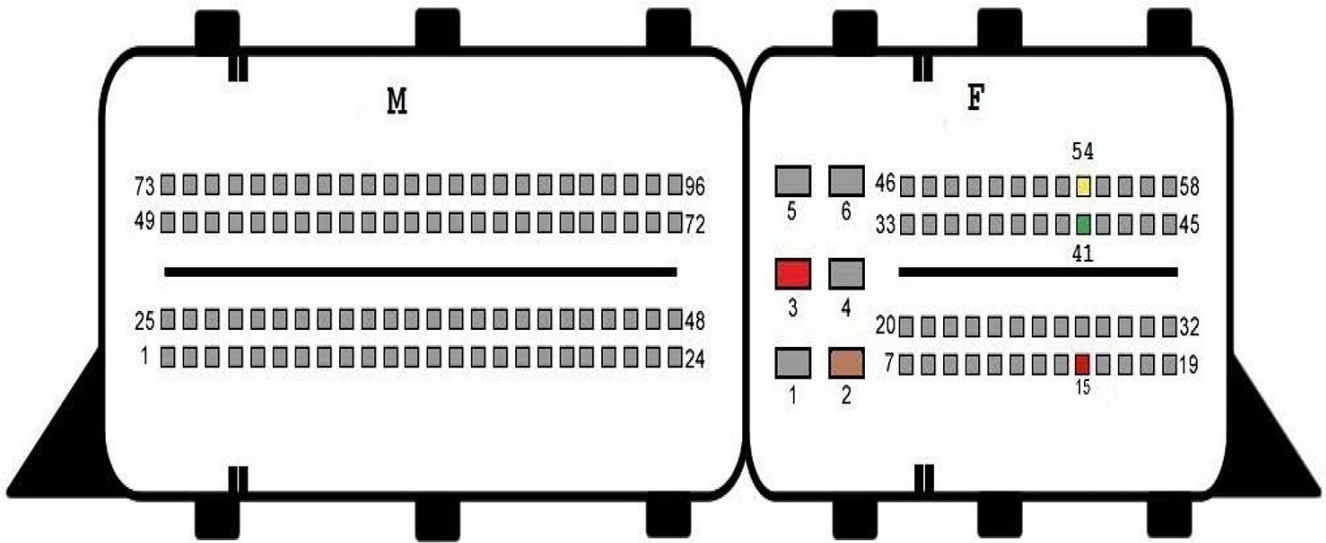
F-2	GND
F-3,15	+12V
F-41	CAN-H
F-54	CAN-L



Connection schemes

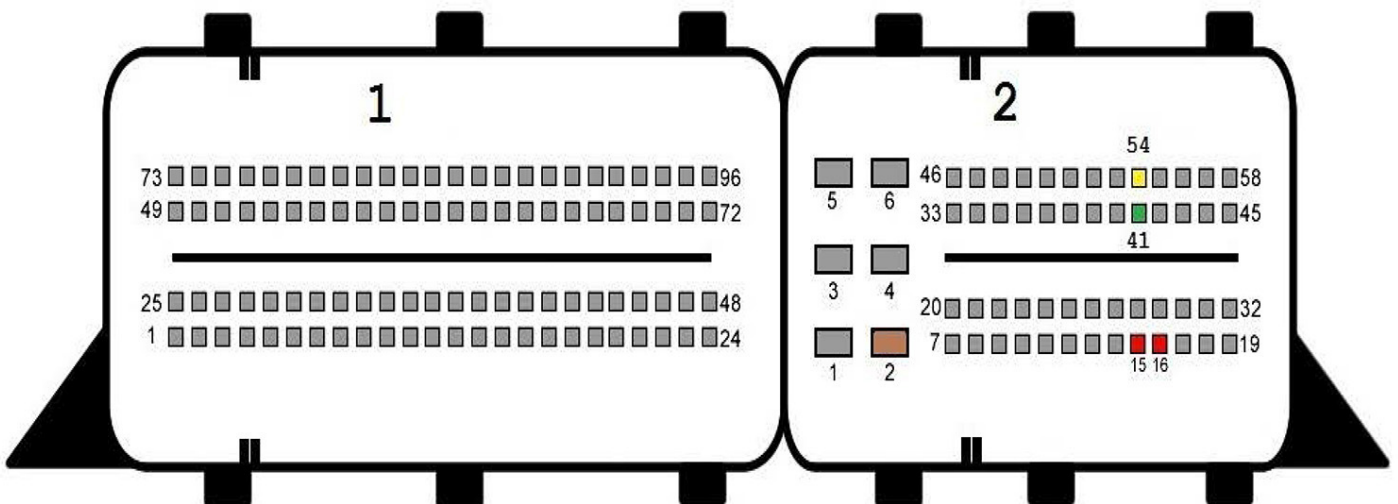
CR60 . xx

F-2	GND
F-3,15	+12V
F-41	CAN-H
F-54	CAN-L



ME9 . 7

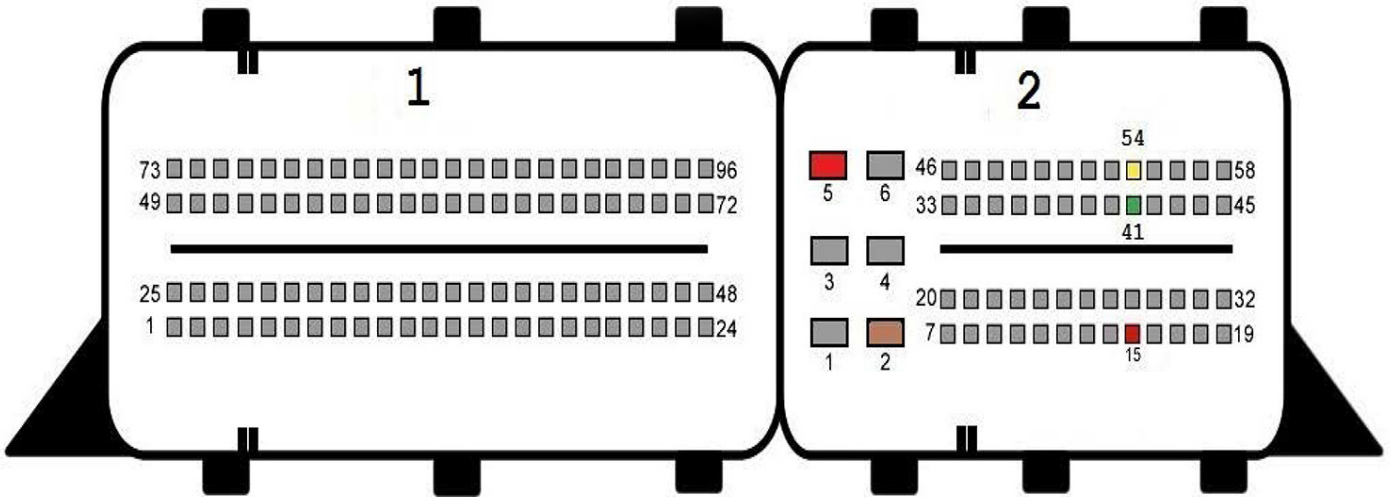
2-2	GND
2-15,16	+12V
2-41	CAN-H
2-54	CAN-L



Connection schemes

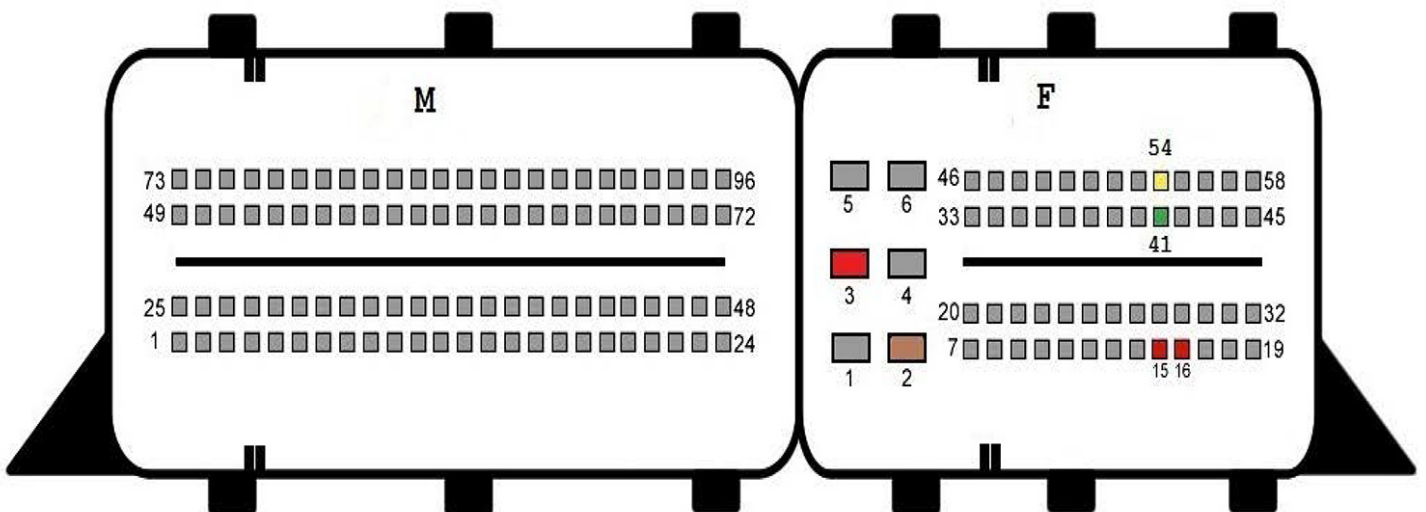
MED17.7.x

2-2	GND
2-5,15	+12V
2-41	CAN-H
2-54	CAN-L



SIM266

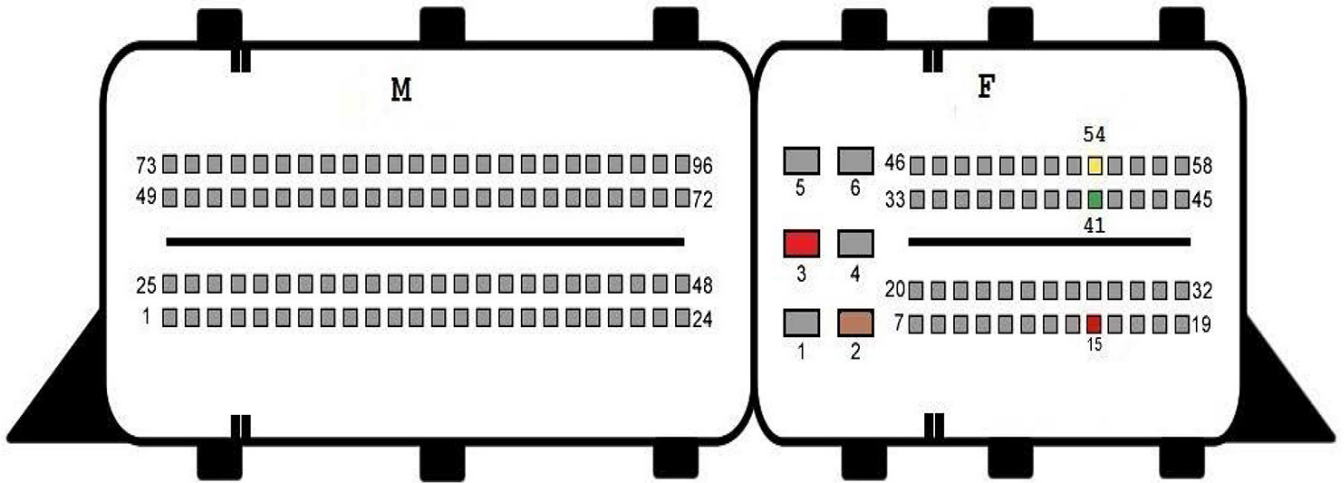
F-2	GND
F-3,15,16	+12V
F-41	CAN-H
F-54	CAN-L



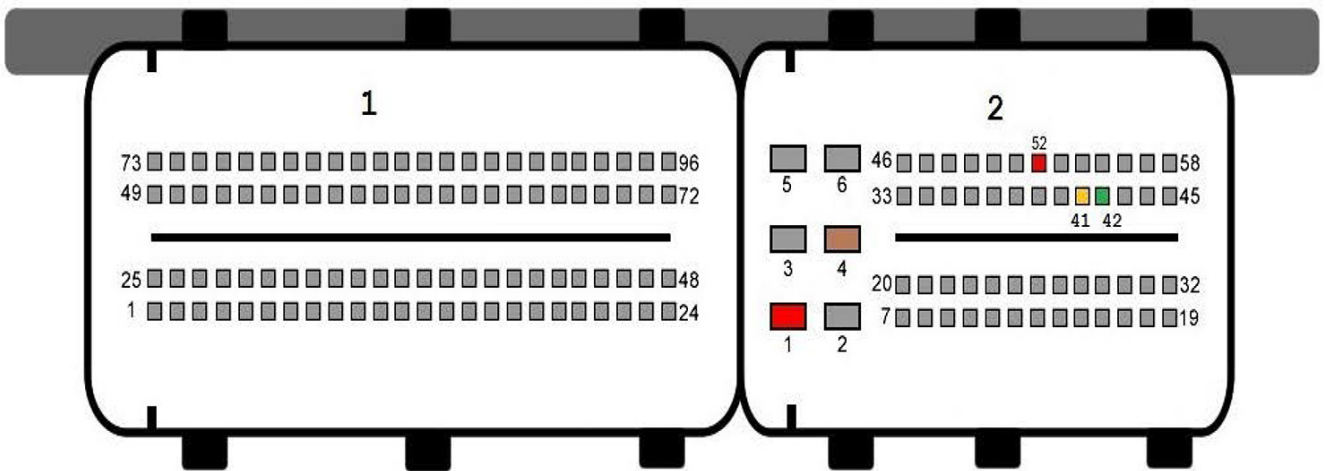
Connection schemes

SIM271DE2.0

F-2	GND
F-3,15	+12V
F-41	CAN-H
F-54	CAN-L

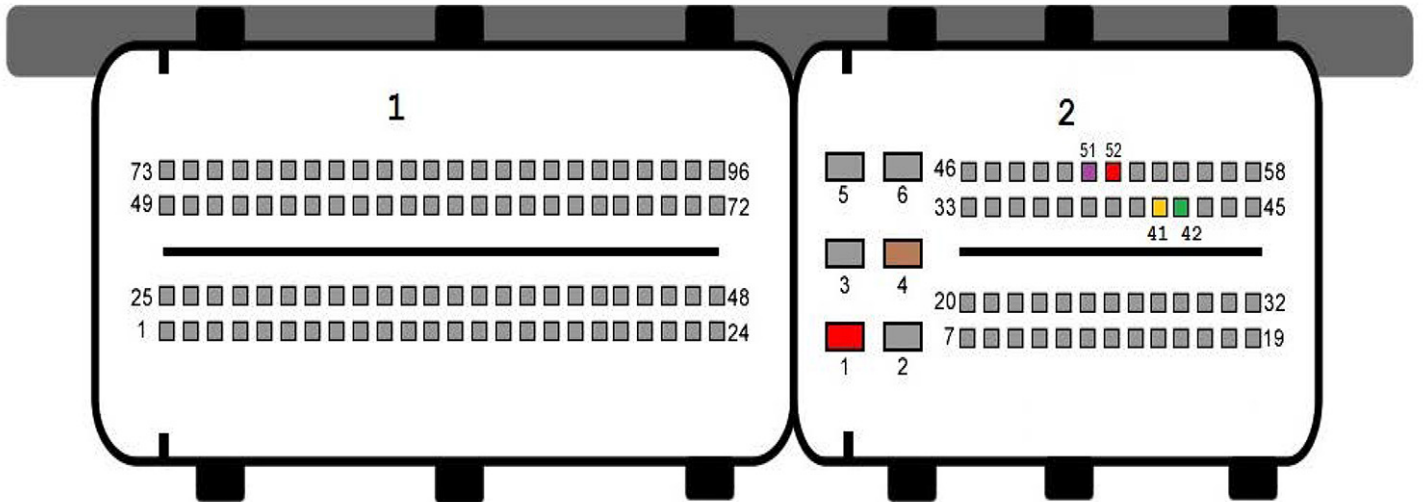


SIM271KE2.0

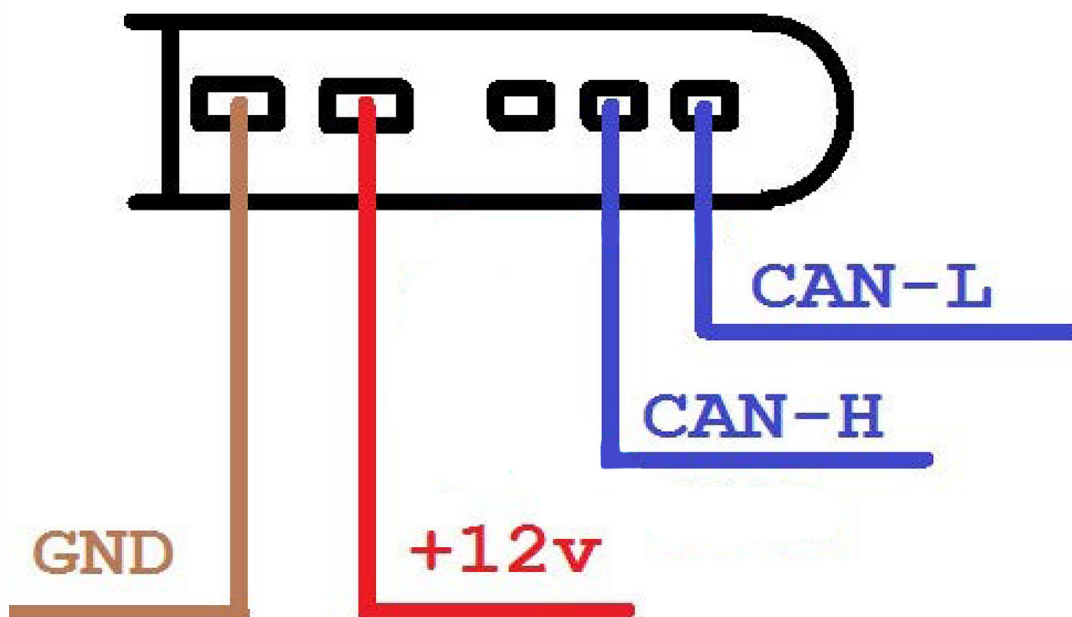


2-4	GND
2-1,52	+12V
2-42	CAN-H
2-41	CAN-L

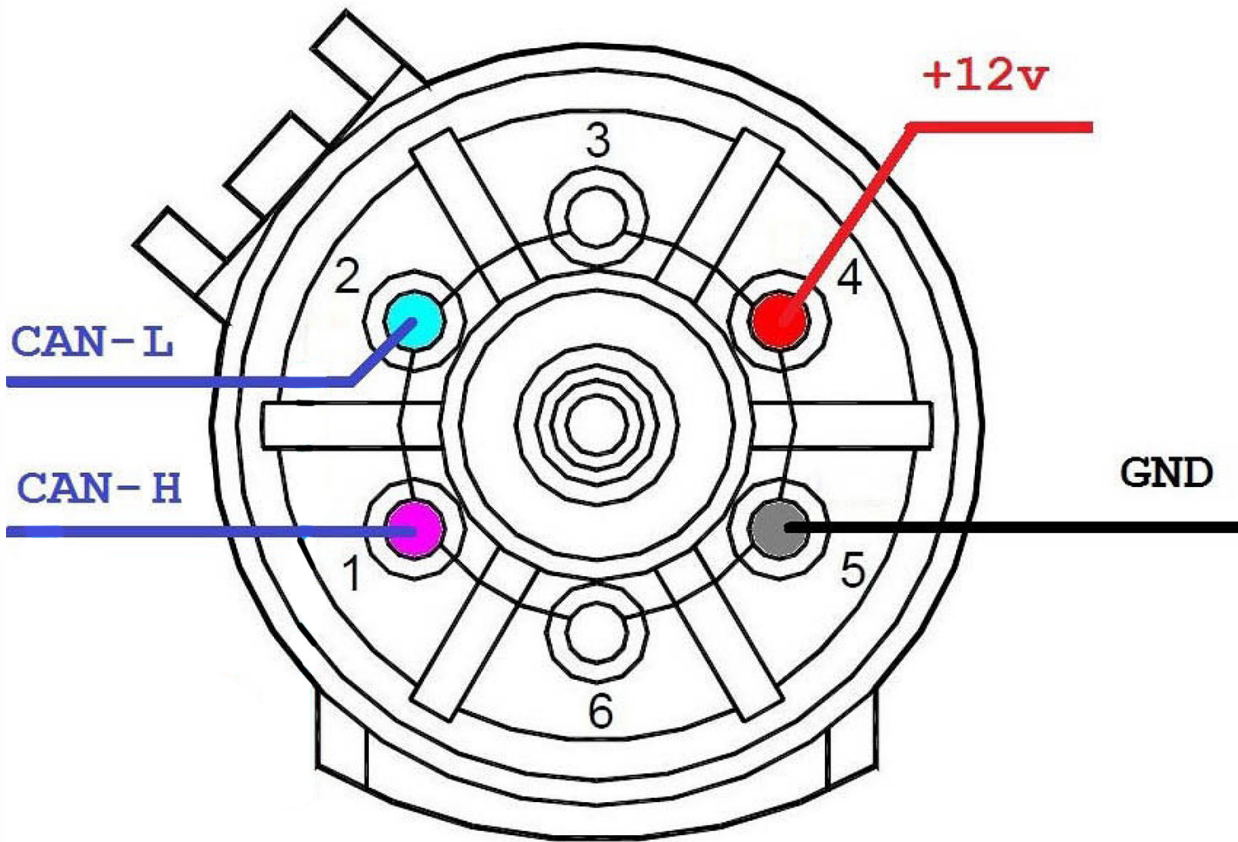
SIM4LKE



2-4	GND
2-1, 52	+12V
2-51	K-Line
2-42	CAN-H
2-41	CAN-L



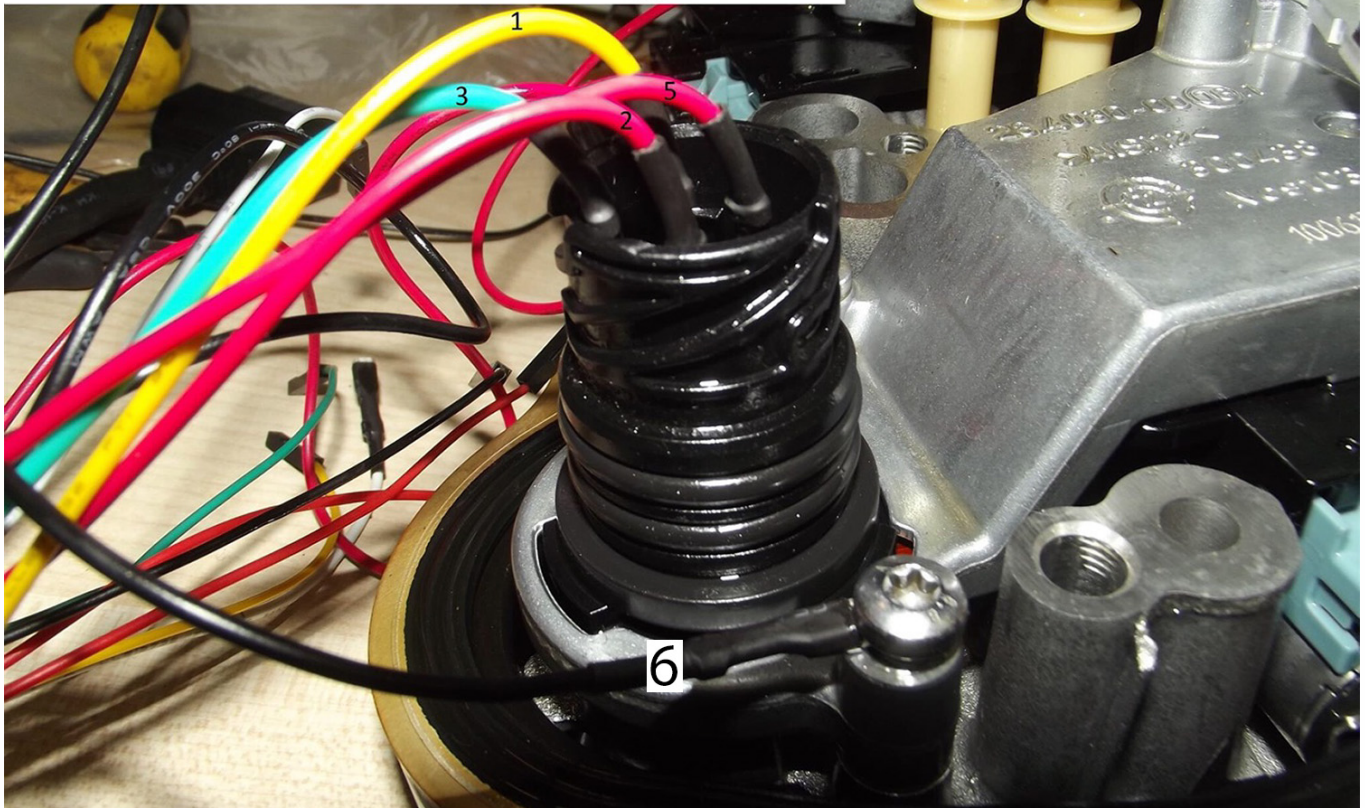
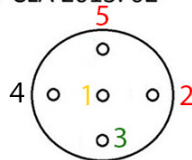
Connection schemes



DOUBLE CLUTCH TRANSMISSION (FDCT) W117 CLA 2013. 02

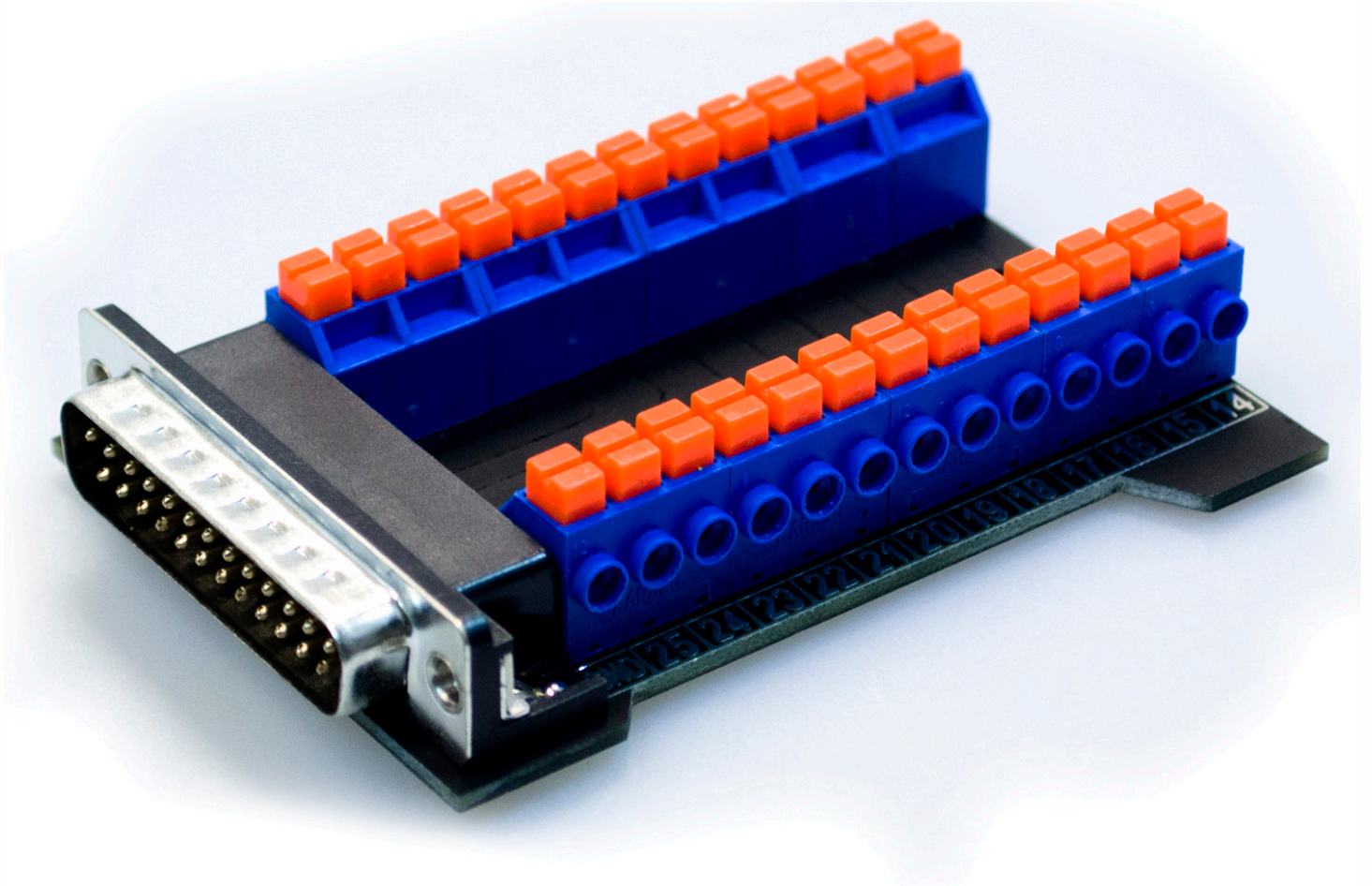
MAGIC ERASER WIRING CONNECTION

- 1. CAN-LOW 2. +12
- 3. CAN-HIGH 5. +12 6. GROUND POINT



Universal Adapter

Universal Adapter for Magic Bench Connect EVO

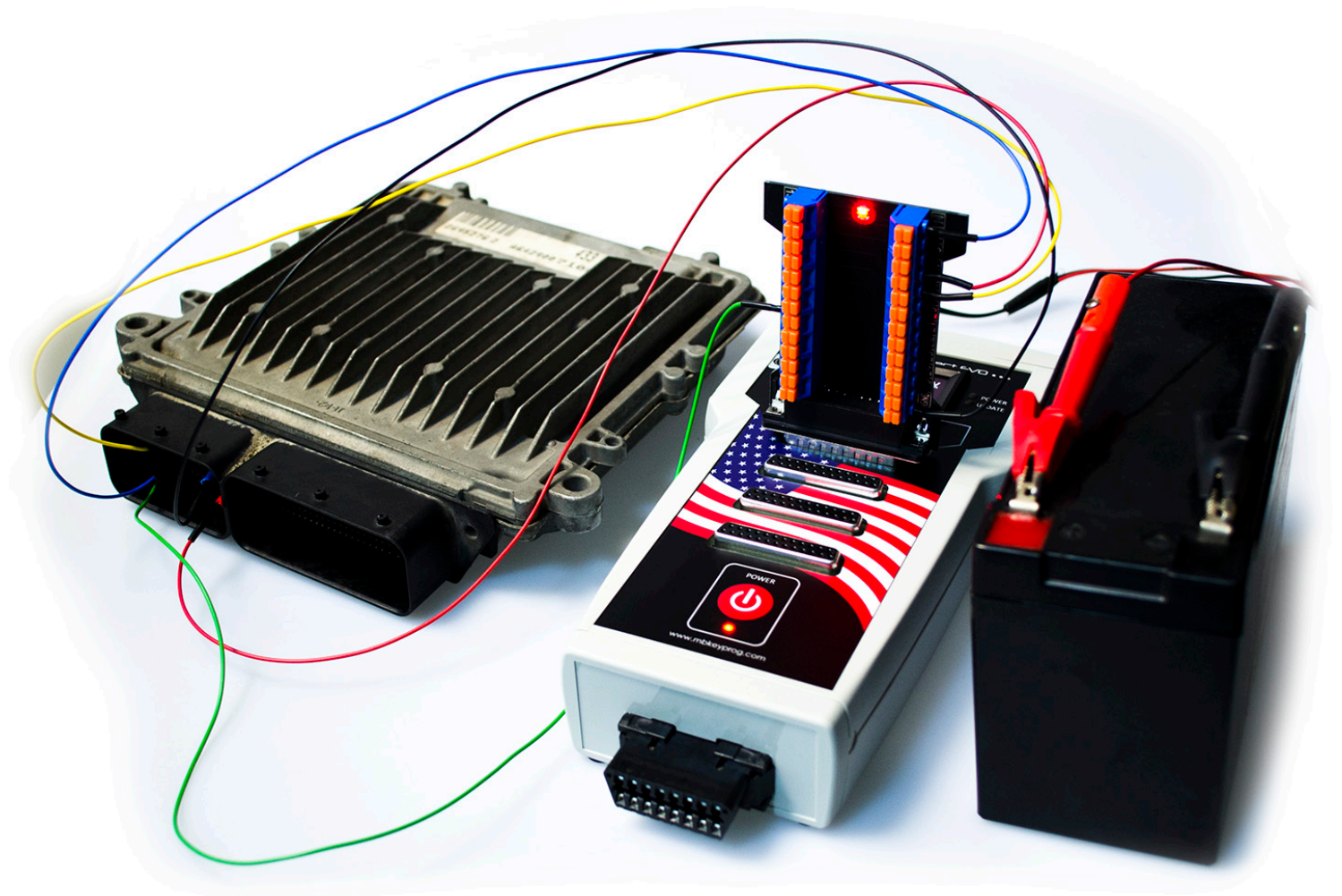


Universal Adapter allows you make your own custom connection to simulate a setup. You simply connect cables to plug into the adapter sockets, which are numbered from 1 to 25, to your module that you want to test on bench.

You plug adapter into Magic Bench Connect EVO and it's ready to go.

Connection example

Example connection of Magic Bench Connect EVO to ECU using Universal Adapter and your OWN cables with a custom connection.



Power cable



Power Cable

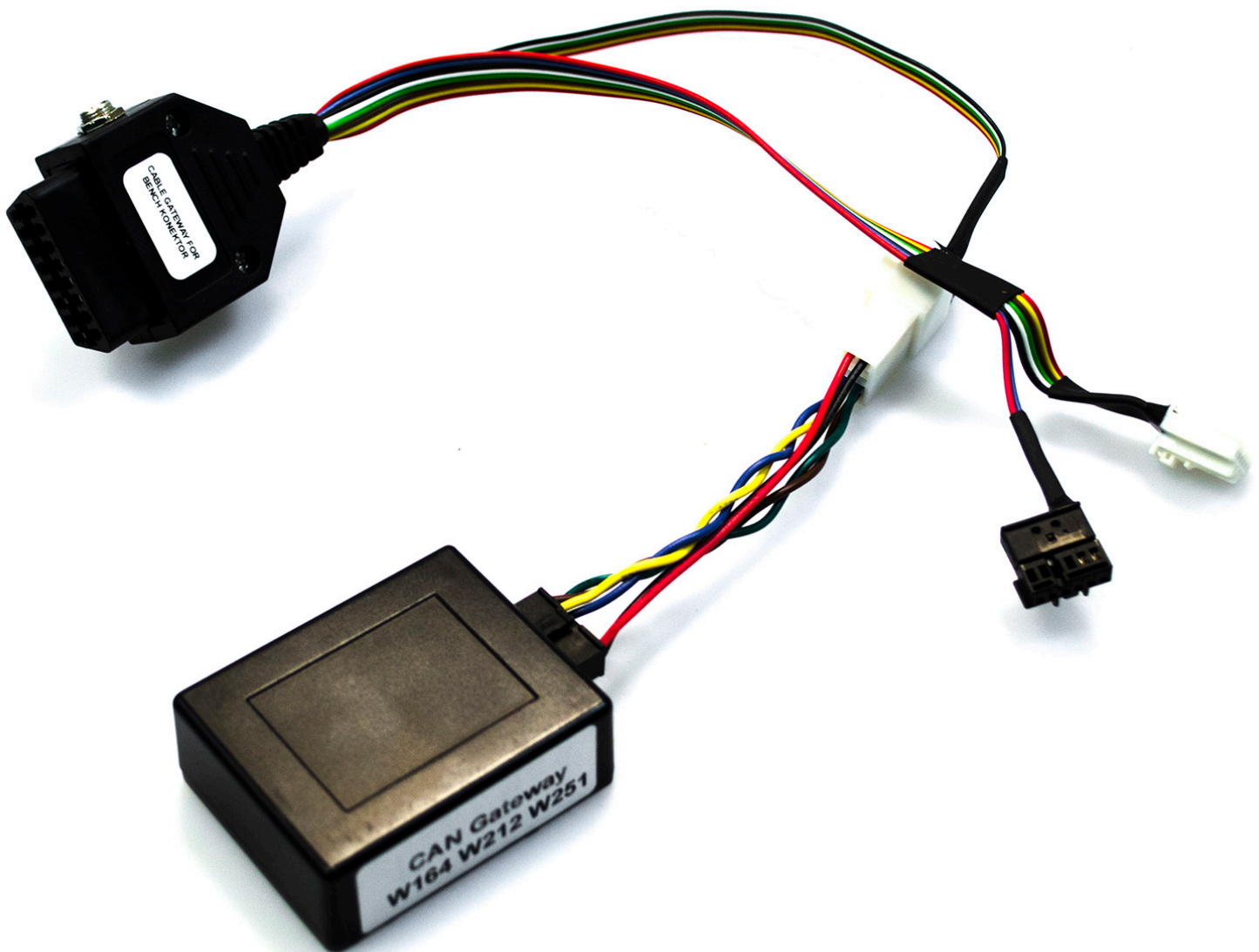


Power cable is used to power up Magic Bench Connect EVO with +12V power supply. The device will not work without the ingoing power.

CAN Gateway OPTIONAL

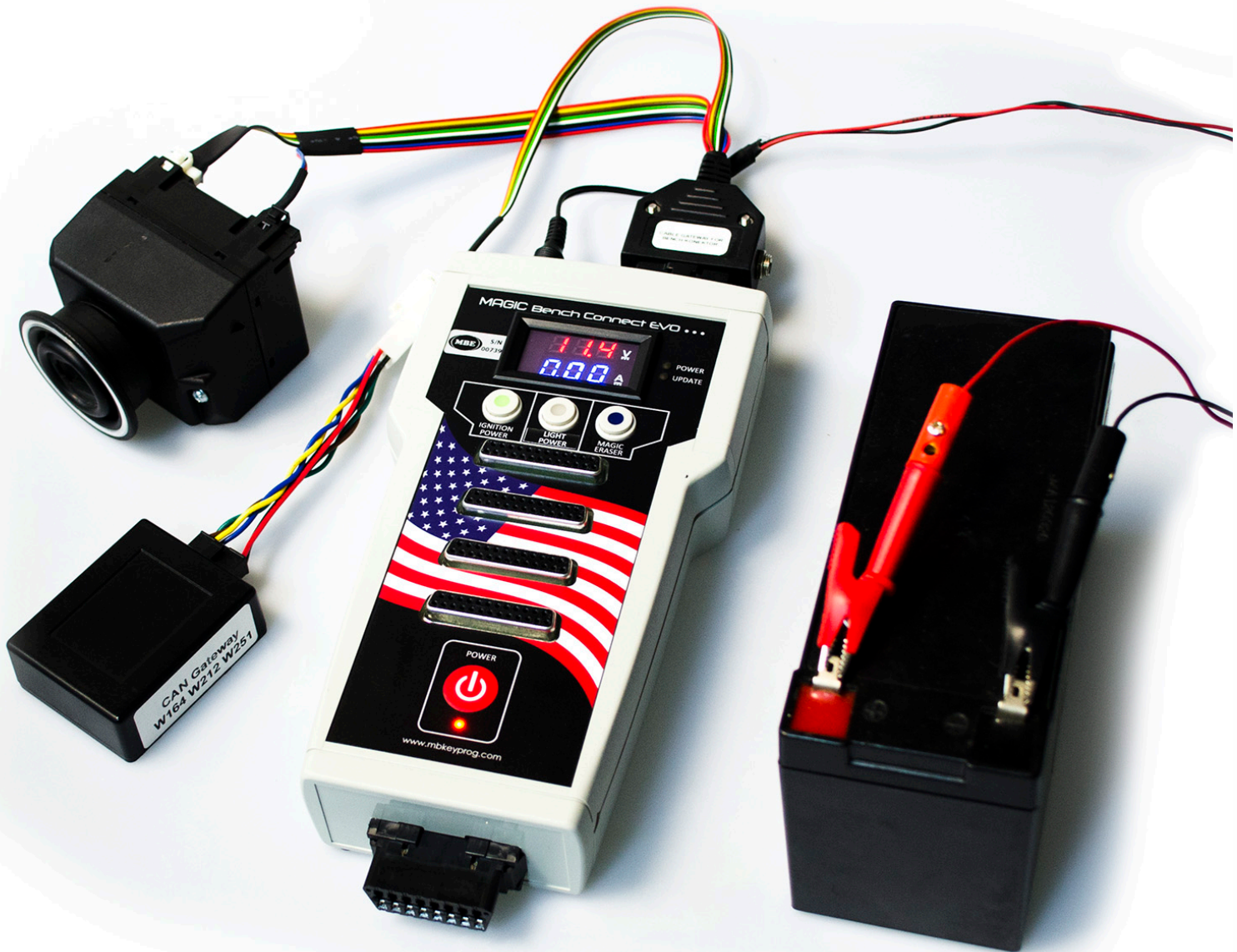
CAN Gateway W164 W212 W251 for Magic Bench Connect EVO is an OPTIONAL device that allows connecting to W164/W212/W251 EZS with emulation of CAN module.

If you plan to use the device without Magic Bench Connect EVO then you need to connect additional power supply to the OBD plug.



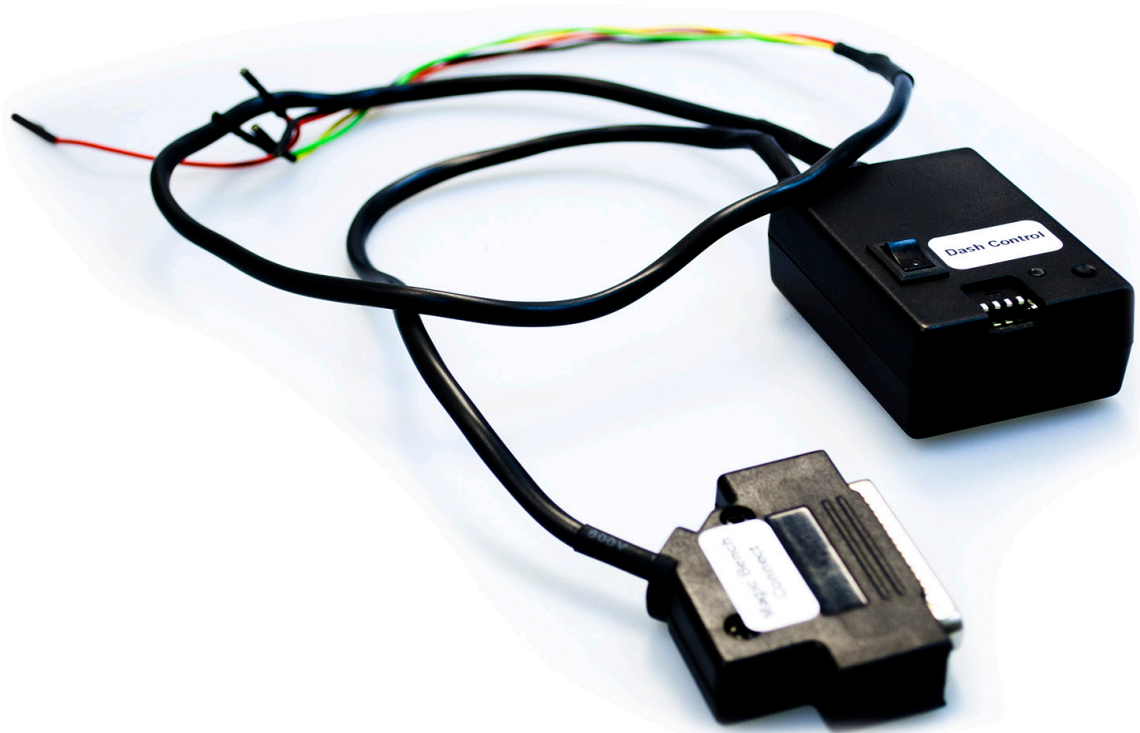
Connection example

Example connection of CAN Gateway to W164 simulating EIS on bench with use of Magic Bench Connect.

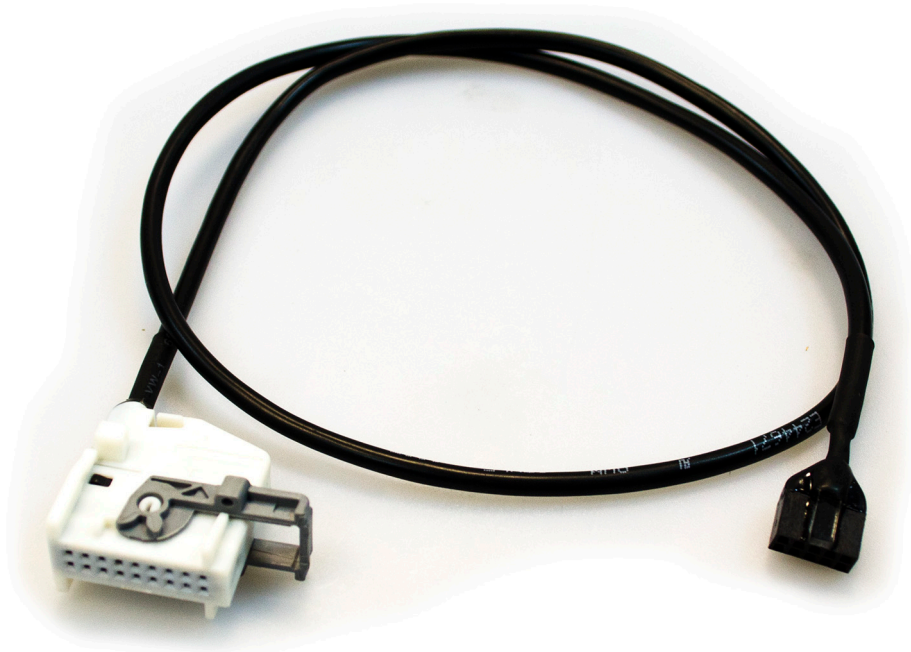


Dash Control OPTIONAL

A Dash Control is a device that you can connect to Magic Bench Connect EVO and test Mercedes-Benz, BMW and Renault dashboards. It's an optional product that you can get separately.



We also have Dashcontrol MB cable available as OPTIONAL cable, for easy Mercedes-Benz dashboard socket connection.



Coverage



Coverage:

Mercedes-Benz:

- W212
- W218
- W207
- W204
- X204
- W204(2007 up)
- W221
- W216
- W164
- W251
- W906

BMW:

- F-Series
- E-Series

Renault:

- Laguna
- Megane
- Scenic

Connection cables



Please refer to these colors as a Dashcontrol cable color legend.

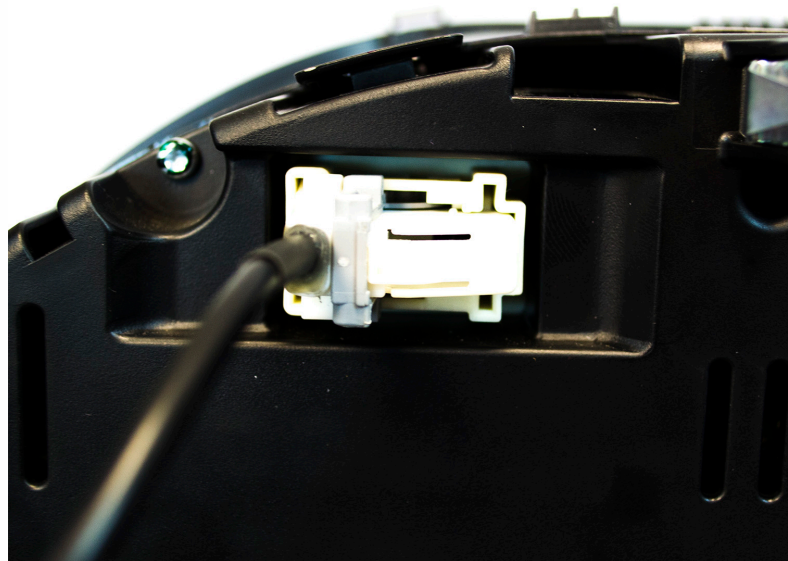
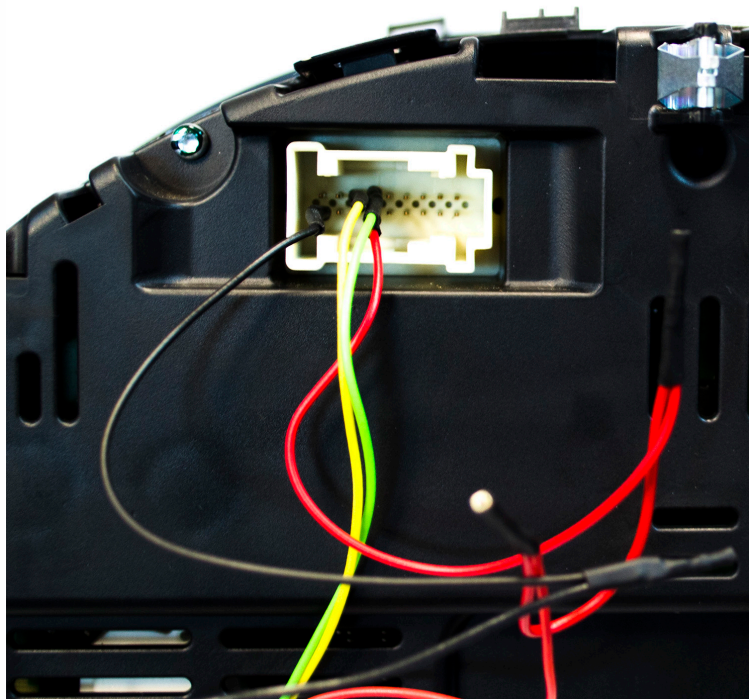
BLACK: GND

RED: +12V

YELLOW: CAN-L

GREEN: CAN-H

Example connection using universal cables (left) and Dashcontrol MB cable (right).



Connection example

Example connection of Mercedes-Benz dashboard with universal cables to socket pins and Magic Bench Connect EVO to test the dashboard.



W204/W207/W212/W218

Mercedes-Benz 212/218/207/204/X204/204(2011up)

Connect the cables to dashboard connector:

CAN H: 13

CAN L: 12

+12v: 4

GND: 1

Set the switch in following position: OFF OFF ON ON



Click button in following order to do tests:

1. "IGN ON"
2. needle test
3. warning lights on/off

W221/W216

Mercedes-Benz W221/W216

Connect the cables to dashboard connector:

CAN H: 13

CAN L: 12

+12v: 4

GND: 1

Set the switch in following position: OFF ON OFF OFF



Click button in following order to do tests:

- 1. "IGN ON"**
- 2. needle test**
- 3. TFT display test**

W164/W251

Mercedes-Benz W164/W251

Connect the cables to dashboard connector:

CAN H: 13

CAN L: 12

+12v: 4

GND: 1

Set the switch in following position: OFF ON OFF ON



Click button in following order to do tests:

- 1. "IGN ON"**
- 2. needle test**
- 3. warning lights on/off**

W906

Mercedes-Benz W906

Connect the cables to dashboard connector:

CAN H: 13

CAN L: 12

+12v: 4

GND: 1

Set the switch in following position: OFF ON ON OFF



Click button in following order to do tests:

1. "IGN ON"
2. needle test
3. display + backlights on/off

BMW E65



BMW E65

Connect the cables to dashboard connector:

CAN H: 6

CAN L: 7

+12v: 9

GND: 18

Set the switch in following position: OFF OFF OFF ON



Power ON Magic Bench Connect EVO, Hold reset daily milage button on dashboard, switch on power button on Dashcontrol, click on Dashcontrol function button.

Click to cycle through menu. Hold to select option. Select second option to test dashboard.

BMW F-Series

BMW F-Series

Connect the cables to dashboard connector:

CAN H: 6

CAN L: 12

+12v: 1,2,11

GND: 7,8

Set the switch in following position: OFF OFF ON OFF



With that connection you can light up dashboard to test if it works.

Laguna/Megane/Scenic

Renault

Connect the cables to dashboard connector:

Scenic/Laguna

CAN H: 30

CAN L: 29

+12v: 1

GND: 2

Megane

CAN H: 1

CAN L: 4

+12v: 15

GND: 30

Set the switch in following position: OFF OFF OFF OFF



Click button in following order to do tests:

1. "IGN ON", test 1
2. "IGN ON", test 2
3. "IGN ON", test 3

EIS/ESL Testing Tool OPTIONAL



EIS/ESL Testing Tool Special Edition is our old successful device designed to specifically with with Magic Bench Connect EVO.

Device is capable to connect EIS/EZSs and ESL/ELVs on bench and test them with connection to different various modules connected to Magic Bench Connect EVO on bench.



Supported models



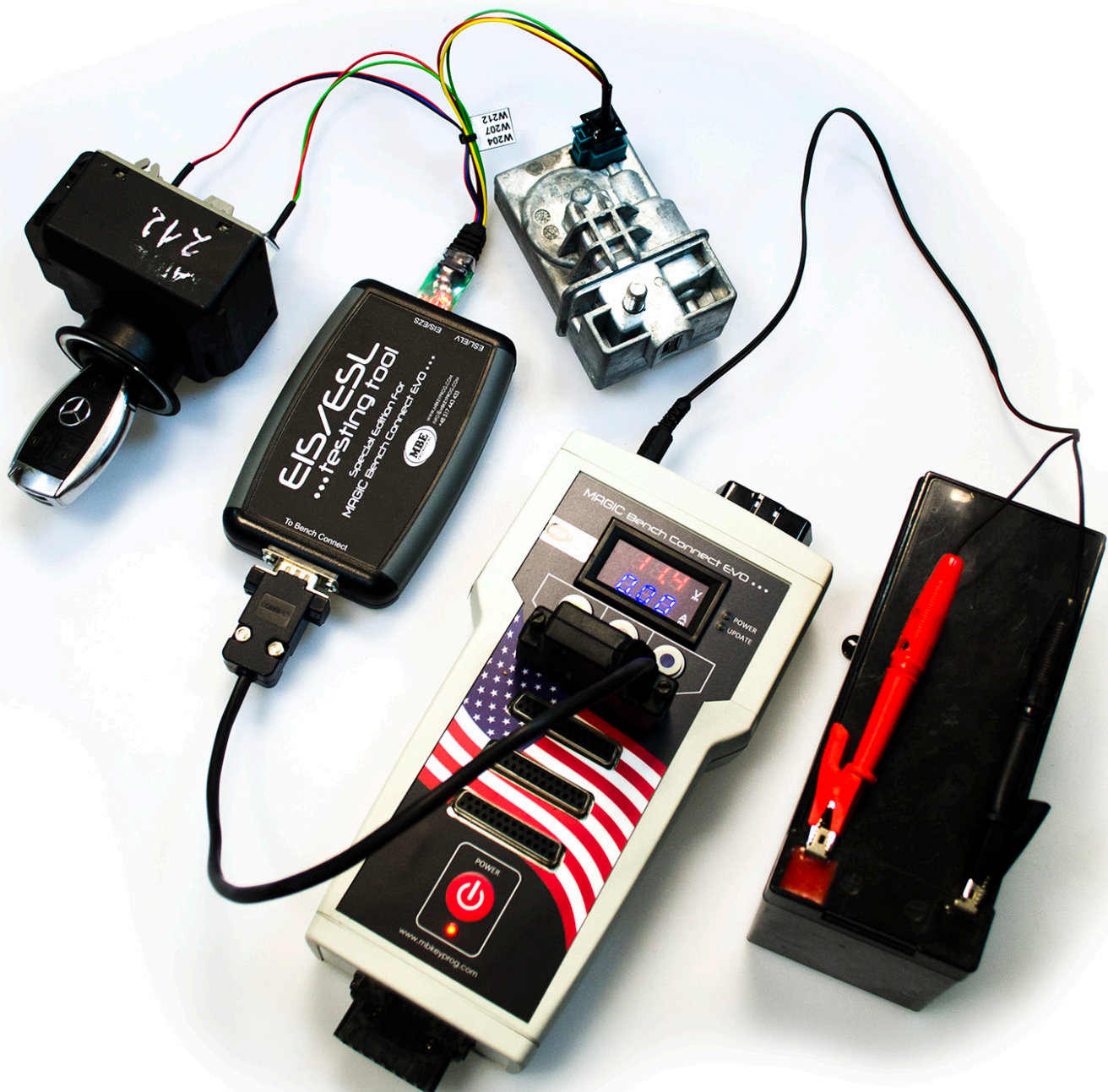
Mercedes-Benz EZS and ELV:

- W209/W211/W220
- W204/W207/W212
- W220
- W221/W164/W251
- W906
- W203/W639
- W202/W208/W210

Connection example

Example connection of W212 EZS and ELV to EIS/ESL Testing Tool SE to Magic Bench Connect EVO.

DO NOT connect additional power source to EIS/ESL Testing Tool while you have it connected to Magic Bench Connect. It may cause damage that will not be repaired.



Professional Adapters Set OPTIONAL

This OPTIONAL set allows you to easily connect Magic Bench Connect EVO or Magic Eraser devices to a bunch of different modules: ECUs, ELVs, gearboxes, ISM/DSMs and others in easy and fast way.

Works with Magic Bench Connect EVO, Magic Eraser, VVDI, CGDI, Mercedes Instruments and others!



Supported modules



Supported modules:

ISM/DSM modules

VGS2 NAG2(3) gearboxes

W204 ELVs

ECUs:

CR3.XX

CR4.XX

CR5

CR60.XX

CR42.40

CRD.11

CRD2.XX

CRD3X

ME9.7

MED17.7.X

SIM4LE

SIM4LKE

SIM266

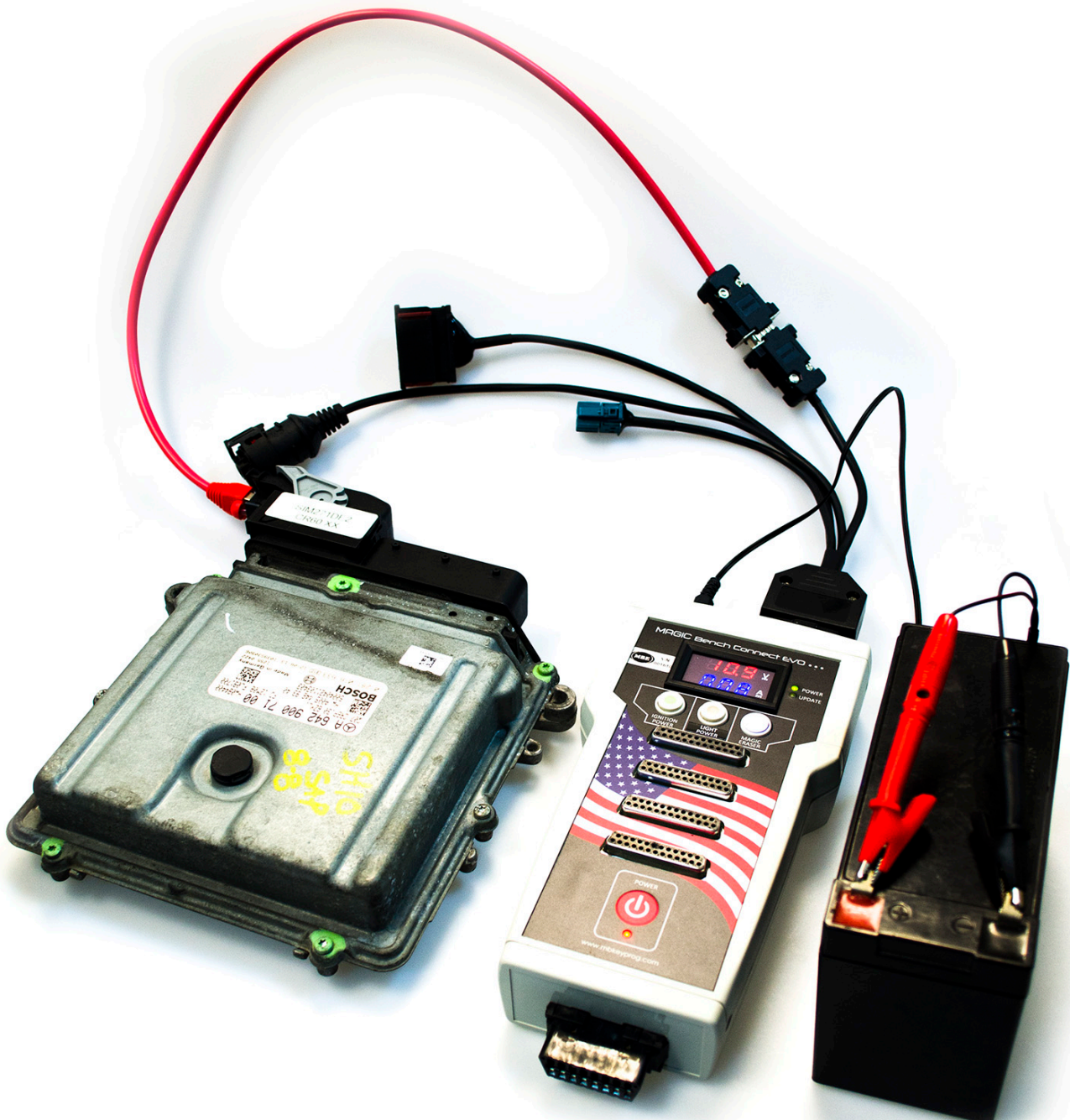
SIM271DE2.0

SIM271KE2.0

Connection example

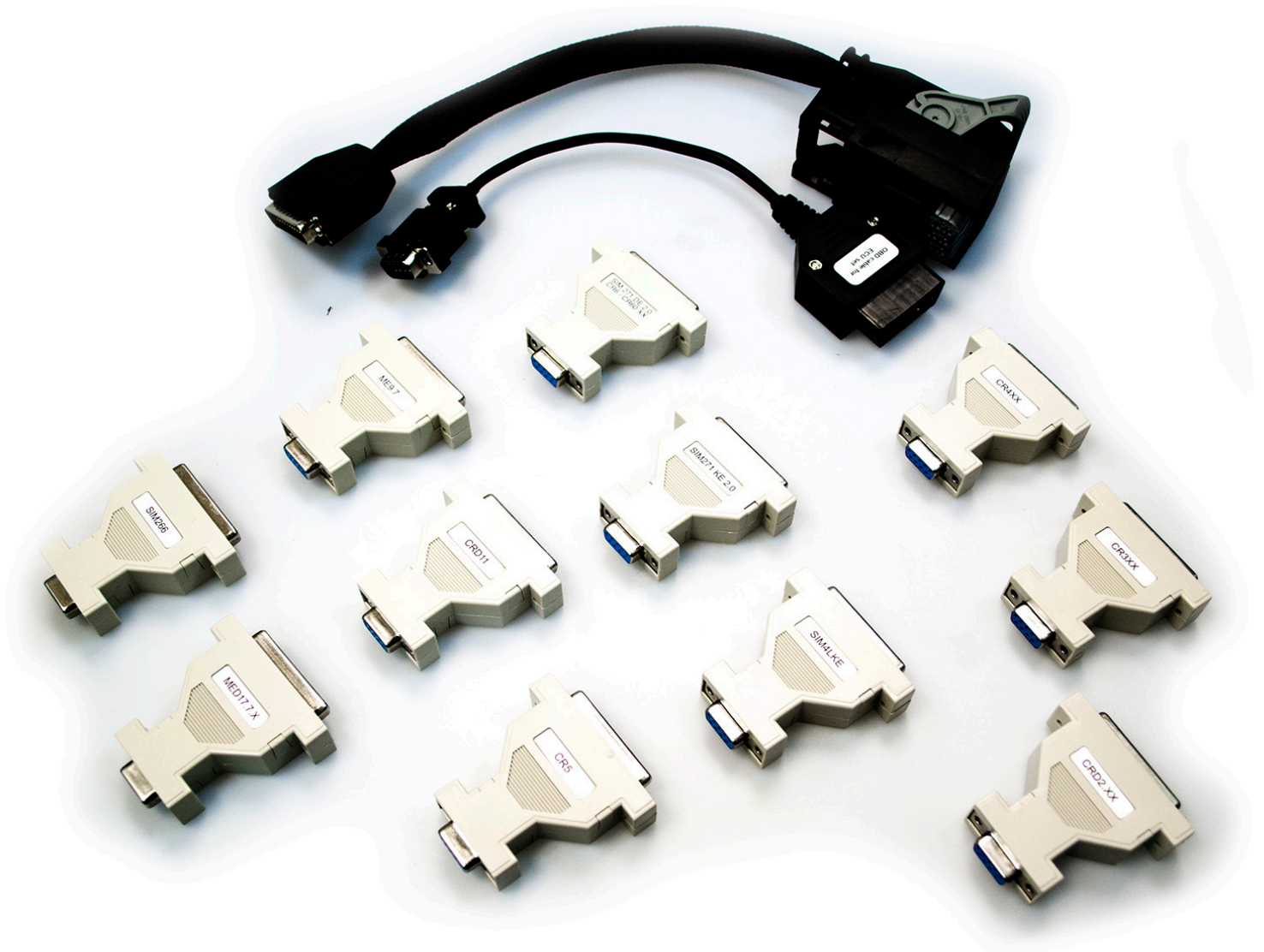
You can look at an example connection below. We've connected an ECU with an adapter that is connected to universal cable and directly to Magic Bench Connect EVO. With that connection you can use Magic Eraser to test ECU or simulate ECU on bench.

Adapters are easy to connect to ECUs. For Magic Eraser cable please refer to Magic Eraser cable connections in this manual.



Easy ECU Adapters Set OPTIONAL

This OPTIONAL set allows you to easily connect Magic Bench Connect EVO or Magic Eraser devices to different kind of ECUs. Supported list is available on the next page.



Supported modules



Supported modules:

ECUs:

CR3.XX

CR4.XX

CR5

CR60.XX

CR42.40

CRD.11

CRD2.XX

CRD3X

ME9.7

MED17.7.X

SIM4LE

SIM4LKE

SIM266

SIM271DE2.0

SIM271KE2.0

Connection example



Example connection of adapter to ECU to Magic Bench Connect EVO.

