

Diagnostic device
Immobilizer emulator

i4- Immobilizer Emulator Mercedes CR1, CR2 CAN



1. Product description:

This device emulate an immobilizer data stream to the ecu. It is meant to be used as diagnostic device during car repairs in car workshops.

In order to properly work of emulator, there is need to modify eprom and flash memory for some kinds of controllers.

The program change in the emulator is made by changing the switches 1,2,3 in the correct order. Details are presented in the table in point 2.

2. Supported controllers

Car controller model	Details	Switches setting in emulator
- A-class 1.7 Cdi (5 plugs) - A-class with VDO MSM (1.4, 1.6, 1.9 petrol) - Bosch with HC11E9 (320 6-cyl, 430 8-cyl) - E-class Lucas 2.0 D (4 plugs) - EDC 2.5D, 2.9D, 3.0D (1 plug) - Vito 2.2 CDi (5 plugs)	CR1 with CAN WSP	<p>1 2 3 OFF OFF OFF</p>
- VDO with 24C02 (2 white plugs)	CR1 with CAN EZS	<p>1 2 3 ON OFF OFF</p>
- Bosch with B58 24LC02 (2 plugs) - VDO with X24C01 (2 black plugs) - VDO with X24C02 (2 yellow plugs)	CR1 with CAN infrared	<p>1 2 3 OFF ON OFF</p>
- ML 2.7 CDi (5 plugs) - Sprinter 2.2 CDi, 2.7 CDi (5 plugs)	CR2 with CAN WSP	<p>1 2 3 ON ON OFF</p>

3. Wire marks in emulator

Red	Red	+12V ACC
Blue	Blue	GND
Black	Black	CAN-H
White	White	CAN-L

4. LED diodes colours in emulator

Green	Green	Emulator power supply
Red	Red	Emulator has been fitted to ECU

5. Methods of connecting emulator to controller:

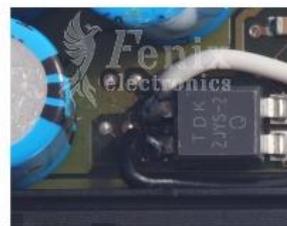
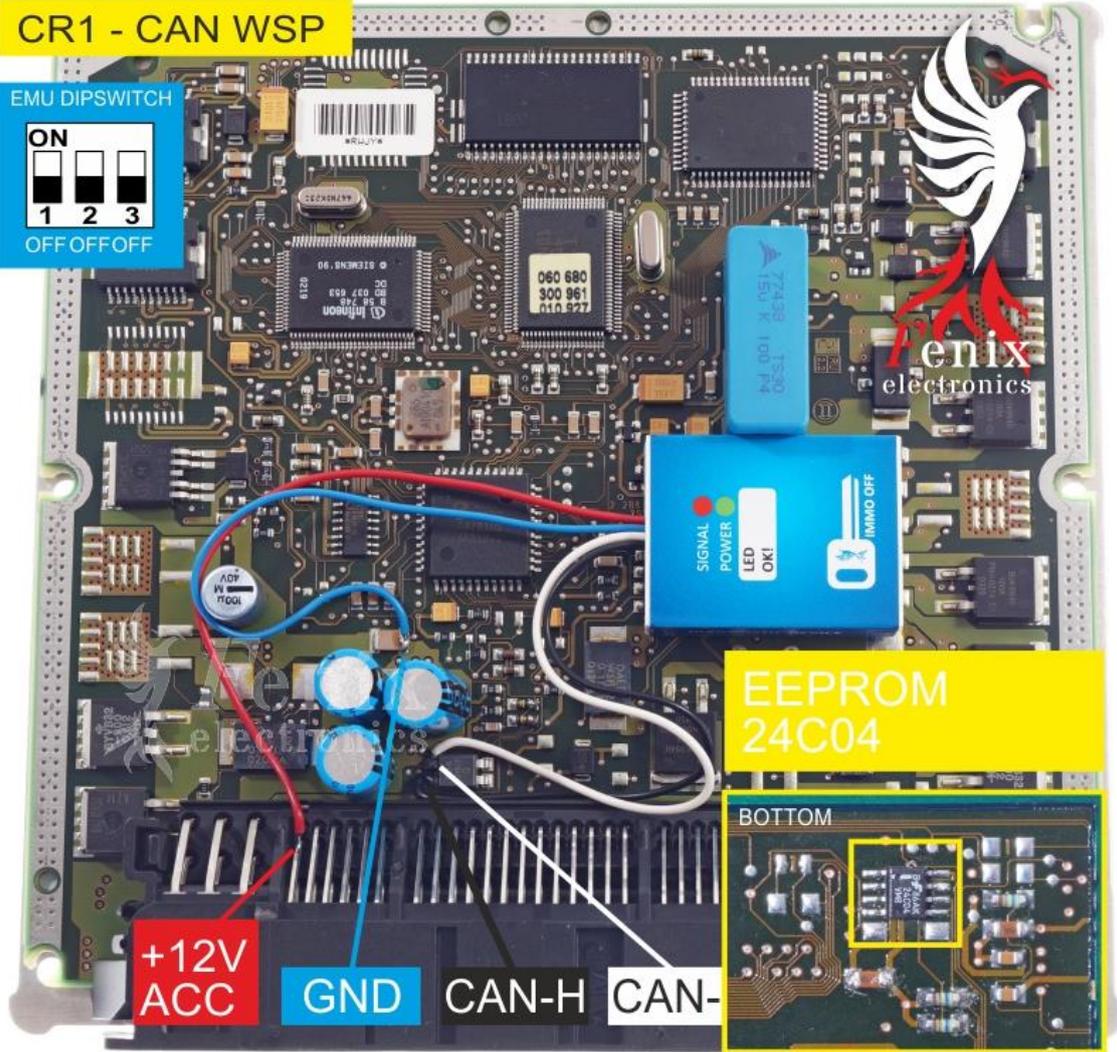
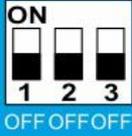
CR1 with CAN WSP

- a. Vito 2.2 CDi (5 plugs)
A-class 1.7 CDi (5 plugs)

Mercedes, immo Bosch CR1.2, CR1.6, CR1.7

CR1 - CAN WSP

EMU DIPSWITCH



Disconnect CAN line from WSP.

Make changes to the ECU memory using the Fenix_IBP application

b. A-class z VDO MSM (1.4, 1.6, 1.9 petrol)

Emulator colours		controller
+12V ACC	Red	Pin 48, 68 or 69
GND	Blue	Pin 40, 41 or 47
CAN-H	Black	Pin 76
CAN-L	White	Pin 75

Disconnect CAN line from WSP.

Make change in flash memory 29F200.

- Manual method:
Find the 03 03 values that are under the car body numbers (VIN) Replace them with 03 31, repeat the action in the whole memory.
or
Find the 04 40 values that are found under the car body numbers (VIN), replace them with 04 31, repeat the action in the entire contents of the memory.

Address	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	ASCII
0x00004320	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0x00004330	AA	BB	30	03	00	00	F9	F9	FF	\$=0...úú.....							
0x00004340	31	36	38	30	33	31	31	4A	10	10	10	10	30	39	A6	05	1680311J111119!
0x00004350	68	C0	24	2C	37	04	40	00	00	00	00	00	7B	20	85	02	hR\$,7.@.....{ ...
0x00004360	00	00	E1	03	02	26	58	00	00	00	3F	03	56	30	30	30	..ä..&X...?.V000
0x00004370	30	30	00	00	00	00	00	00	00	00	00	00	00	00	05	04	00.....
0x00004380	15	01	00	4F	80	80	10	00	00	0F	80	00	02	00	00	00	...O€€.....€....
0x00004390	00	00	00	00	8D	01	00	3E	80	80	10	00	00	00	10	80	...T...>€€.....€
0x000043A0	01	02	00	00	00	00	00	19	01	00	3E	80	80	10	00	00>€€..

- Automatic method
Send to testery@sterowniki.co file .bin or .hex and we will modify it and send it back.

After making changes to the memory content, personalization using the STAR Diagnosis interface must be performed.

c. Controller Bosch z HC11E9 (320 6-cyl, 430 8-cyl)

Mercedes, immo Bosch ME2.x -HC11E9 processor

CR1 - CAN WSP

EMU DIPSWITCH
ON
1 2 3
OFF OFF OFF

IMMO OFF
LED OKI
POWER
SIGNAL

enix electronics

PROCESSOR
MOTOROLA
HC11E9

+12V ACC
CAN-L
CAN-H
GND

Fenix electronics

Make changes to the ECU memory using the Fenix_IBP application

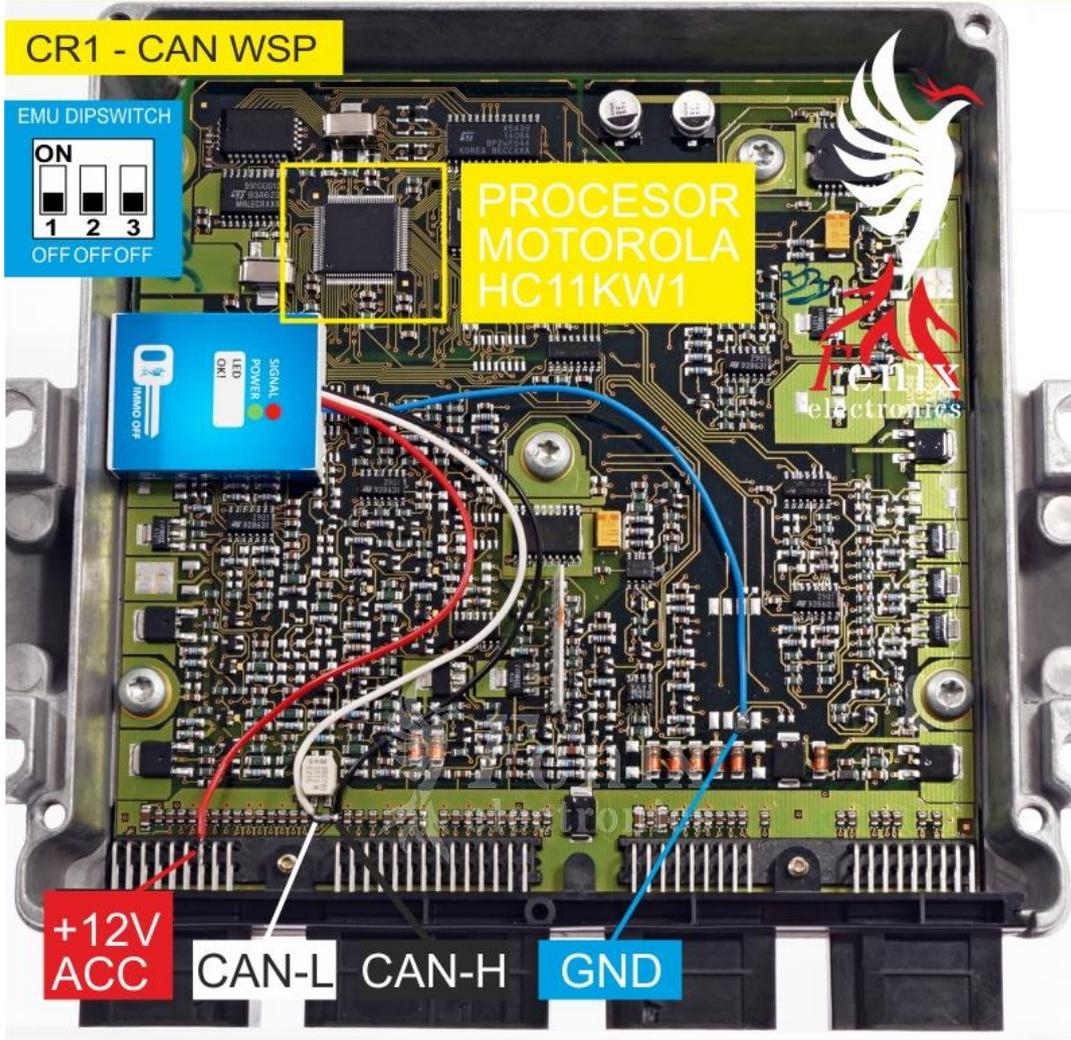
+12V	·2	A	GND	·3	A
CAN-H	·11	D	CAN-L	·12	D

After making changes to the memory content, personalization using the STAR Diagnosis interface must be performed.

d. E-class Lucas 2.0 D (4 plugs)

Mercedes, immo Lucas ED013

CR1 - CAN WSP



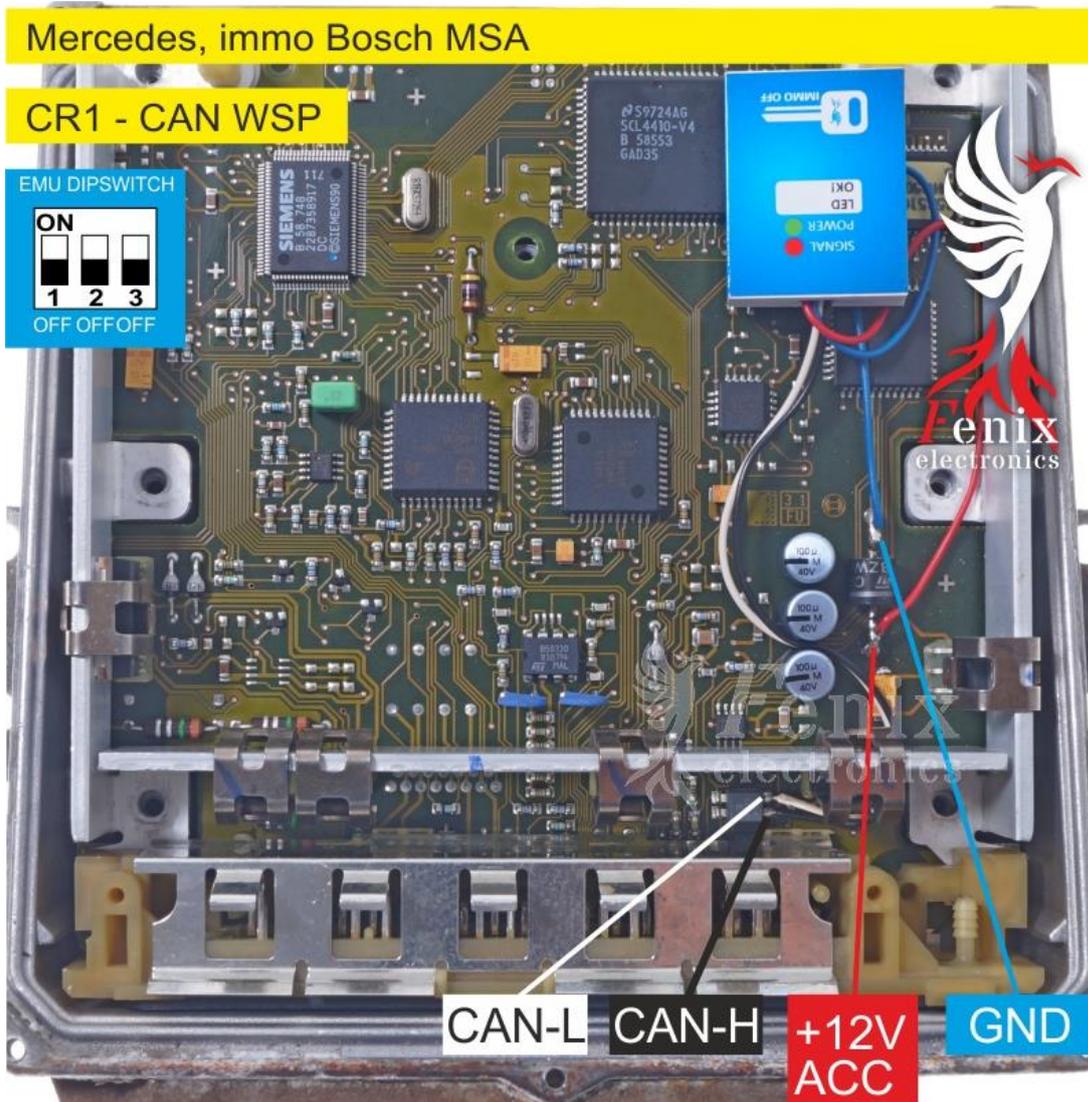
+12V	·16	1	GND	·9	3
CAN-H	·1	1	CAN-L	·10	1

Disconnect CAN line from WSP.

Make changes to the ECU memory using the Fenix_IBP application

After making changes to the memory content, personalization using the STAR Diagnosis interface must be performed.

e. Controller EDC 2.5D, 2.9D, 3.0D (1 plug)



+12V	· 55	GND	· 19
CAN-H	· 41	CAN-L	· 5

Disconnect CAN line from WSP.

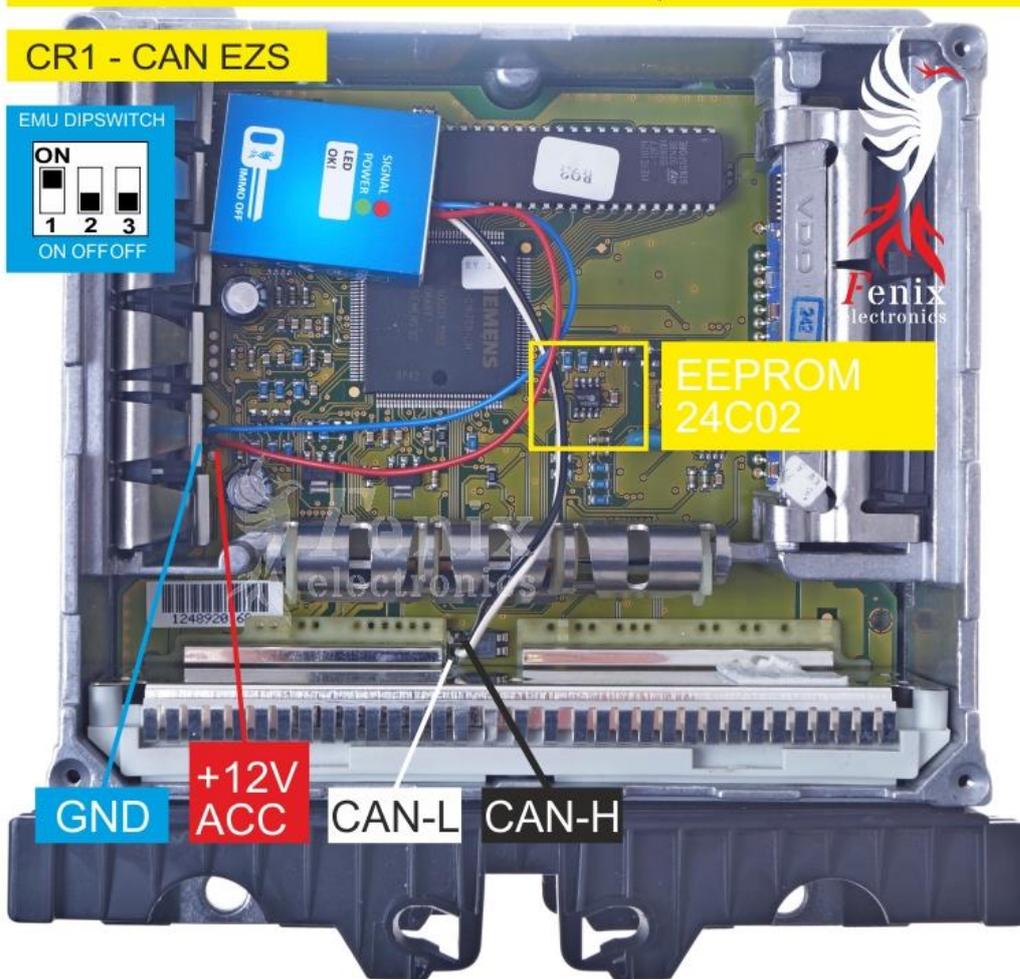
Make changes to the ECU memory using the Fenix_IBP application

CR1 with CAN EZS

f. VDO z 24C02 (2 white plugs)

Mercedes, immo VDO MSE -24C02 eeprom

CR1 - CAN EZS

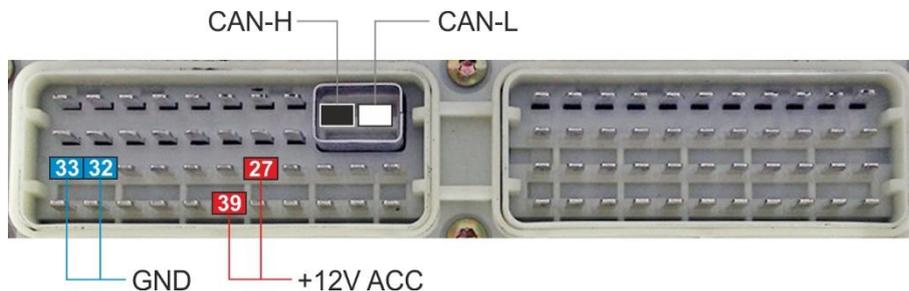


Make changes to the ECU memory using the Fenix_IBP application

After making changes to the memory content, personalization using the STAR Diagnosis interface must be performed.

CR1 z CAN infrared

- g. Bosch z B58 24LC02 (2 plugs)



Emulator colours		controller
+12V ACC	Red	Pin 27 or 39 socket A
GND	Blue	Pin 32 or 33 socket A
CAN-H	Black	
CAN-L	White	

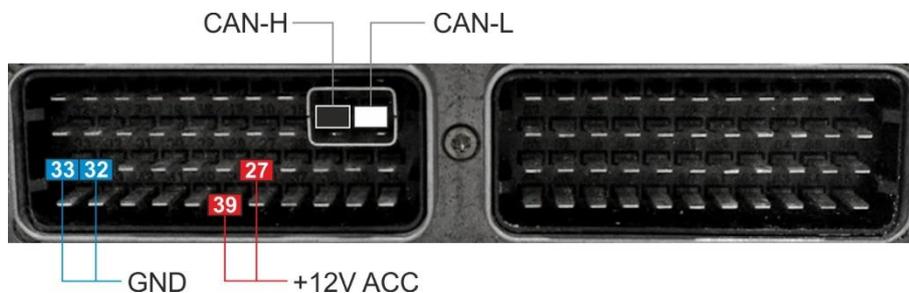
Disconnect CAN line from infrared module.

Make change in flash memory 24LC02.

In address 000 write value 33.

After making changes to the memory content, personalization using the STAR Diagnosis interface must be performed.

- h. VDO z X24C01 (2 black plugs)



Emulator colours		controller
+12V ACC	Red	Pin 27 or 39 socket A
GND	Blue	Pin 32 or 33 socket A
CAN-H	Black	
CAN-L	White	

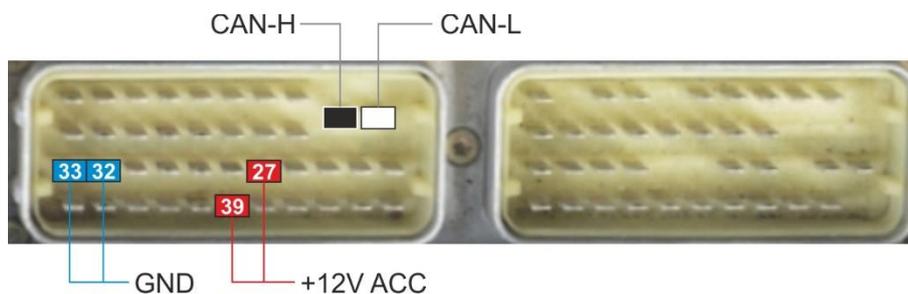
Disconnect CAN line from infrared module.

Make change in flash memory X24C01.

In address 000 write value 33.

After making changes to the memory content, personalization using the STAR Diagnosis interface must be performed.

i. VDO z X24C02 (2 yellow plugs)



Emulator colour		controller
+12V ACC	Red	Pin 27 or 39 socket A
GND	Blue	Pin 32 or 33 socket A
CAN-H	Black	
CAN-L	White	

Disconnect CAN line from infrared module.

Make change in flash memory X24C02.

Variant 1:

In address 027 write value 33.

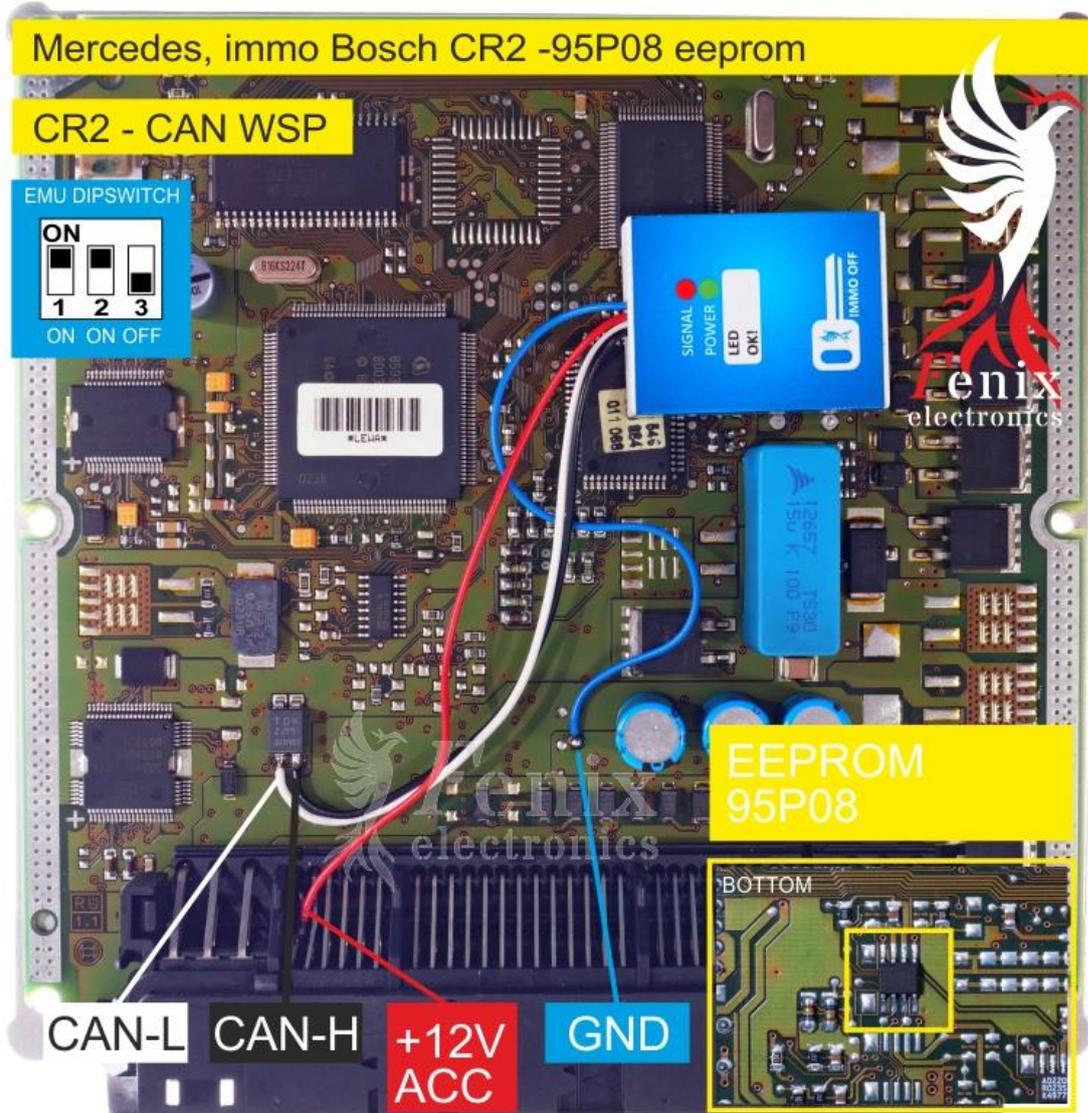
Variant 2:

In address from 50 to 55 write values 02 03 00 FF 00 20

After making changes to the memory content, personalization using the STAR Diagnosis interface must be performed.

CR2 with CAN WSP

j. Sprinter 2.2 CDI, 2.7 CDI (5 plugs), ML 2.7 CDI (5 plugs)



+12V	·13	2	GND	·4	1
CAN-H	·11	2	CAN-L	·12	2

Disconnect CAN line from WSP.

Make changes to the ECU memory using the Fenix_IBP application