Universal emulator UNIEMU user manual

1. Mercedes Benz Seat Occupant sensor emulator - Type1: not included

Can emulate only Mercedes Benz E-class W211, CLS W219 (2004-2007) with BOSCH airbag computers seat occupant sensor. Is possible to set emulator in two states: passenger airbag "ON" or "OFF" (child seat recognized).

<table>
<thead>
<tr>
<th>not occupied</th>
<th>occupied</th>
</tr>
</thead>
</table>

2. Mercedes Benz Seat Occupant sensor emulator - Type2:

Can emulate only Mercedes Benz E-class W211 (2002-2004) with TEMIC airbag computers seat occupant sensor. Possible to set emulator in two states: passenger airbag "ON" or "OFF" (child seat recognized).

<table>
<thead>
<tr>
<th>not occupied</th>
<th>occupied</th>
</tr>
</thead>
</table>

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All right reserved  www.codecard.lt
Disconnect X55/4 under passenger seat and connect emulator instead B48: PKBU=+12V, BUWH=KL (K-line), BN=GND.
Mercedes Benz Seat Occupant sensor emulator - Type3

Can emulate older (year 1997-2001) Mercedes Benz A-class W168, C-class W202, Vito W638, ML (with TRW airbag computer) seat occupant sensor. Possible to set emulator in two states: passenger airbag "ON" or "OFF" (child seat recognized).

<table>
<thead>
<tr>
<th>not occupied</th>
<th>occupied</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Not Occupied" /></td>
<td><img src="image" alt="Occupied" /></td>
</tr>
<tr>
<td>AB</td>
<td>Actual values</td>
</tr>
<tr>
<td>----</td>
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<tr>
<td>11</td>
<td>Seat occupied/child seat recognition Function</td>
</tr>
<tr>
<td></td>
<td>-F- / SOR / CSR</td>
</tr>
<tr>
<td></td>
<td>Passenger seat</td>
</tr>
<tr>
<td></td>
<td>not occupied</td>
</tr>
<tr>
<td></td>
<td>Child seat</td>
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</table>

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<tr>
<td></td>
<td>Passenger seat</td>
</tr>
<tr>
<td></td>
<td>occupied</td>
</tr>
<tr>
<td></td>
<td>Child seat</td>
</tr>
</tbody>
</table>
Disconnect **X1** under passenger seat and connect emulator instead **B48**: RD=+12V, WH=KL (K-line), BN=GND.
4. Mercedes Benz Seat Occupant sensor emulator - Type4

Can emulate Mercedes Benz (year 2000-2006 E-class W210, Vito W639, ML W163, A-class W168, C-class W203, CLK W209, Vaneo seat) occupant sensor. Is possible to set emulator in two states: passenger airbag "ON" or "OFF" (child seat recognized).
W210 wiring: Disconnect X55/4 under passenger seat and connect emulator instead B48: BKYE=+12V, BNWH=KL (K-line), BN=GND.
5. Mercedes Benz Seat Occupant sensor emulator – Type5

Can emulate S class W220 2000-2005 seat occupant sensor. Is possible to set emulator in two states: passenger airbag "ON" or "OFF" (child seat recognized).

<table>
<thead>
<tr>
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<th>occupied</th>
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</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image of not occupied state" /></td>
<td><img src="image2.png" alt="Image of occupied state" /></td>
</tr>
</tbody>
</table>
Disconnect connector 2 under passenger seat and connect emulator instead B48: RD=+12V, WH=KL (K-line), BN=GND.
### N2/7 (restraint systems control module)

<table>
<thead>
<tr>
<th>Control unit</th>
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<tbody>
<tr>
<td>MB number</td>
<td>001 820 22 26</td>
</tr>
<tr>
<td>Supplier</td>
<td>Bosch</td>
</tr>
<tr>
<td>Hardware status</td>
<td>38/98</td>
</tr>
<tr>
<td>Software status</td>
<td>27/98</td>
</tr>
<tr>
<td>Diagnosis identifier</td>
<td>2/00</td>
</tr>
<tr>
<td>Date of manufacture, day</td>
<td>10</td>
</tr>
<tr>
<td>Date of manufacture, month</td>
<td>12</td>
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<tr>
<td>Date of manufacture, year</td>
<td>1998</td>
</tr>
<tr>
<td>Manufacturing number</td>
<td>070366</td>
</tr>
<tr>
<td>System information</td>
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</table>

### Seat occupied and child seat recognition

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Actual values</th>
</tr>
</thead>
<tbody>
<tr>
<td>483</td>
<td>B48 (Front passenger seat occupied and child seat recognition)</td>
<td></td>
</tr>
<tr>
<td>488</td>
<td>Seat occupied and child seat recognition in front passenger seat: external faults are detected.</td>
<td>NO</td>
</tr>
<tr>
<td>541</td>
<td>Seat occupied recognition on front passenger seat</td>
<td>NOT ASSIGNED</td>
</tr>
<tr>
<td>551</td>
<td>Child seat is recognized on front passenger seat.</td>
<td>NO</td>
</tr>
</tbody>
</table>

BMW E60, E63, E90 (year 2003-2005) Seat Occupant sensor emulator. Works with BMW cars with older type key (with metal blade)

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<tr>
<td><img src="image1.png" alt="Image of not occupied sensor" /></td>
<td><img src="image2.png" alt="Image of occupied sensor" /></td>
</tr>
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</table>

Connection diagram: disconnect original passenger recognition sensor (usually is 3 pin yellow connector) and on car side wires connect UNIEMU:

- Sensor power supply (check with multimeter- must be ~12V with ignition ON) - UNIEMU +12V
- Ground wire (check with tester) – UNIEMU GND
- Sensor signal wire (check with multimeter- must be ~9-10V with ignition ON) – UNIEMU KL
7. BMW E60, E63, E90 (2005-2007) Seat Occupant sensor emulator


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<tbody>
<tr>
<td><img src="image1" alt="Diagram of not occupied sensor" /></td>
<td><img src="image2" alt="Diagram of occupied sensor" /></td>
</tr>
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- Ground wire (check with tester) – UNIEMU GND
- Sensor signal wire (check with multimeter- must be ~9-10V with ignition ON) – UNIEMU KL

+12V – pin5; To switch “ON” radio need connect +12V also to pin9; K-line pin need to be connected to radio or CDC I-Bus pin7; GND – pin15;
11. Mazda 6 Seat Occupant sensor emulator:

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><img src="image1.png" alt="Image of sensor emulator" /></td>
<td><img src="image2.png" alt="Image of sensor emulator" /></td>
</tr>
</tbody>
</table>

Mazda 6 connection diagram: disconnect original passenger recognition sensor (usually is 3 pin yellow connector) and on car side wires connect UNIEMU:

- Sensor power supply (check with multimeter- must be ~12V with ignition ON) - UNIEMU +12V
- Ground wire (check with tester) – UNIEMU GND
- Sensor signal wire (check with multimeter- must be ~9-10V with ignition ON) – UNIEMU KL
12. Fiat Stilo Seat Occupant sensor emulator

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Not Occupied Diagram" /></td>
<td><img src="image2.png" alt="Occupied Diagram" /></td>
</tr>
</tbody>
</table>

Fiat Stilo connection diagram: disconnect original passenger recognition sensor (usually is 3 pin yellow connector) and on car side wires connect UNIEMU:

- Sensor power supply (check with multimeter - must be ~12V with ignition ON) - UNIEMU +12V
- Ground wire (check with tester) – UNIEMU GND
- Sensor signal wire (check with multimeter - must be ~9-10V with ignition ON) – UNIEMU KL
13. Renault CAN bus emulator for instrument cluster repair

Renault Scenic wiring:
1 - +12V
2 - GND
30 - CH
29 - CL
Renault Megane wiring:

1 - CH
4 - CL
15 - +12V
30 - GND
Renault Espace wiring:

1, 16 - +12V
2 - GND
Suzuki seat occupant sensor emulator for airbag system repair.

Suzuki connection diagram: disconnect original passenger recognition sensor (usually is 3 pin yellow connector) and on car side wires connect UNIEMU:

- Sensor power supply (check with multimeter- must be ~12V with ignition ON) - UNIEMU +12V
- Ground wire (check with tester) – UNIEMU GND
- Sensor signal wire (check with multimeter- must be ~9-10V with ignition ON) – UNIEMU KL
15. VW immobilizer emulator for VW-Audi-Seat-Skoda cars year 1996-2001

This is the same function emulator like [www.codecard.lt](http://www.codecard.lt) VWEMU. For connection diagram look VWEMU manual.
16. Laguna III instrument cluster CAN bus emulator for dash testing on the table.

Renault Laguna III wiring:
Dashboard 9 pin - CH
Dashboard 11 pin - CL
Dashboard 7 pin - +12V
Dashboard 5 pin - GND
Renault Megane III wiring:

Renault Megane III powerup with UNIEMU
Dashboard 12 pin - CH
Dashboard 11 pin - CL
Dashboard 2 pin - +12V
Dashboard 3 pin - GND

Scenic III: check wiring diagrams for exact pinout.
17. **BMW E60, E61, E90, E91 all car error erase by K-line** – when +12V on emulator appears, emulator after few seconds send “erase all errors” message by K-line. This emulator can be used to eliminate sporadic car engine, airbag, body electronic defects like “my car airbag lamp is ON after 3 days again!” or “you erased errors on my BMW and few days everything was OK, now check engine, ABS, tractions lamps indicate fault”.

Usually you can connect it to car OBDII connector:
GND – OBDII pin4
+12V – OBDII pin1 (on this pin is +12V when ignition is ON)
KL – to OBDII connector pin7
18. Hyundai immobilizer emulator

19. KIA immobilizer emulator
20. Peugeot-Citroen PSA display CAN bus emulator for LCD display testing on the table
PSA LCD connection on-table wiring (remove 121 SMD resistor from UNIEMU connected on CH-CL):
9 - CH
7 - CL
1 - +12V
4 - GND
21. **Opel seat occupant sensor emulator for airbag system repair.**

Opel connection diagram: disconnect original passenger recognition sensor (usually is 3 pin yellow connector) and on car side wires connect UNIEMU:

- Sensor power supply (check with multimeter- must be ~12V with ignition ON) - UNIEMU +12V
- Ground wire (check with tester) – UNIEMU GND
- Sensor signal wire (check with multimeter- must be ~9-10V with ignition ON) – UNIEMU KL
22. **Mercedes ESL emulator** – can emulate defective Mercedes electronic steering lock

Disconnect steering lock and connect UNIEMU emulator according picture

**NOTE:** some older W202, W210, W203 may not work, also Sprinter 2010+, Crafter 2010+ changed ESL crypto system and may not work!
23. **VAG all cars DTC error erase by CAN bus.** When +12V on emulator appears, emulator after few seconds send “erase all errors” message by CAN bus. This emulator can be used to eliminate sporadic car engine, airbag, body electronic defects like “my car airbag lamp is ON after 3 days again!” or “you erased errors on my BMW and few days everything was OK, now check engine, ABS, tractions lamps indicate fault”. We do this emulator for Audi A6, Q7 “steering lock defective” error erase – with this fault IGNITION not switching ON. Emulator +12V we connected to salon illumination lamp – fault in car are erase every time when you open driver door.

Usually you can connect it to car OBDII connector:
- GND – OBDII pin4
- +12V – OBDII pin8 (on this pin is +12V when ignition is ON) or pin16 (+12V all time – fault will be erased after battery disconnecting)
- CH – to OBDII connector pin6
- CL – to OBDII connector pin14
24. **Volvo dash (instrument cluster) test on-table** – tested and works only with Volvo dashboards with 3K91D – for repair purposes. With emulator dashboard works like in car with ignition ON
Volvo dash with green connector emulator connection pinout:
- GND – to cluster green connector pin7
- +12V – to cluster green connector pin6
- CH – to cluster green connector pin12
- CL – to cluster green connector pin13

25. **Audi A5, A6, A7, A8, Q5, Q7 dash (instrument cluster) test on-table** — tested and works with all Audi 2005-2012 — for repair purposes. With emulator dashboard works like in car with ignition ON

![Audi Ignition ON and OFF](image-url)
Audi dash with grey connector emulator connection pinout:
GND – to cluster green connector pin7
+12V – to cluster green connector pin6
CH – to cluster green connector pin12
CL – to cluster green connector pin13
26. **Nissan Micra EPS (Electric power steering) DTC errors erase by OBDII** — erase EPS errors by K-line. When some temporary errors (like steering motor load) in Nissan EPS system is detected, EPS not work until this error is not erased. You can install emulator permanently in car to erase EPS errors after each ignition ON.

Connection:
- GND – to OBDII connector pin4
- +12V – to OBDII connector pin16
- KL – to OBDII connector pin7
27. **Mercedes W203, W209, W211, W164 all car DTC errors erase by OBDII** – fast DTC erase by CAN bus after car repair. Connect UNIEMU emulator to car OBDII connector:

- **GND** – OBDII pin4
- **+12V** – OBDII pin1 (on this pin is +12V when ignition is ON) or pin16 (+12V all time – fault will be erased after battery disconnecting)
- **CH** – to OBDII connector pin6
- **CL** – to OBDII connector pin14

Configure UNIEMU jumps according you needs: for older Mercedes car like W211, W164 use [W211 picture](#), for newer W221, W204, W212 – [W221 picture](#):
28. **Nissan NATS5 immobilizer emulator** – replace defective Nissan immobiliser. Best instalation place is inside motor ECU.

Connection diagram:

Disconnect original NATS5 immobiliser connector and connect UNIEMU to connector wires:

1 – K-Line;
4 – GND;
6 – Indication LED;
7 – +12V (Ign);
8 – +12V (Batt).

GND – NATS5 wiring **pin4** or to ECU ground;
+12V – NATS5 wiring **pin7** or to ECU ignition pin (find according car wiring diagram);
KL – to NATS5 wiring **pin1** or to ECU immo pin (find according car wiring diagram);
Also you need to change IMMO bytes in motor ECU EEPROM. UNIEMU IMMO bytes for Nissan cars is 6666. Works with:

- Bosch 0281010141 2.2L diesel ECU with 24C04 EEPROM memory: change EEPROM for UNIEMU:

```
00000000 9B 01 01 DF 01 0B 00 8C 55 0C 00 0F 08 06 04 03 ........U........
00000010 14 28 30 38 33 2E 32 38 00 00 00 00 00 00 00 00 .(083.2B........
00000020 86 00 8C 55 0C 00 31 30 33 37 33 35 00 80 35 33 ...U..103735..53
00000030 00 00 55 55 00 00 9D 00 0F 01 00 00 01 00 CC CF ..UU.........
00000040 00 00 00 00 00 00 00 00 28 00 00 00 00 12 D9 00 ................
00000050 00 0A 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ..............d=4...
00000060 00 00 00 80 00 01 00 00 00 00 00 00 00 00 00 00 .................
00000070 00 66 66 66 00 00 00 00 00 00 00 00 00 00 00 00 ................
00000080 81 81 00 00 00 81 00 00 00 00 00 00 00 00 00 00 ................
00000090 00 00 00 66 66 66 66 66 66 66 66 66 66 66 FF FF 01 2B ....fff...........
000000A0 45 80 80 00 0D 28 01 00 00 02 BD 00 2C 4D CD 10 E..............M...
000000B0 00 01 28 05 00 00 BB 00 20 1C 4D 80 80 00 01 28 ..(........ .M....(0
000000C0 04 00 00 00 80 00 1D 45 02 02 00 01 28 01 02 CE ........E....(A...
000000D0 00 00 00 00 24 08 10 10 00 00 28 41 00 00 B6 02 00 ..$........(A...
000000E0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF...
000000F0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF...
00000100 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .................3...
00000110 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .................w...
00000120 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF...
00000130 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF...
```

- Bosch 0281010316 2.7L diesel ECU with 24C04 EEPROM memory: change EEPROM for UNIEMU:

```
00000000 DB 02 02 FF 00 0B 00 8C 55 0C 00 0F 85 03 00 01 ........U........
00000010 14 28 30 38 33 2E 32 38 35 00 00 00 00 00 00 00 .(089.25........
00000020 28 00 8C 55 0C 00 31 30 33 37 33 36 30 30 32 38 {...U..1037360028
```
- 1.5 gasoline Hitachi ECU with 93C46 or 93C56:
- 1.8 and 2.0 gasoline Hitachi ECU with 93C56: change EEPROM for UNIEMU:

- 1.4 gasoline Bosch ECU with 24LC02: change EEPROM for UNIEMU:
29. KIA with Zexel ECU immobilizer emulator – replace defective Kia immobiliser. Best installation place is inside motor ECU.

Connection diagram:

Disconnect original immobiliser connector and connect UNIEMU to Zexel ECU like in picture:
GND – to ECU ground;
+12V – to ECU ignition pin (find according car wiring diagram);
KL – to ECU immo pin (find according car wiring diagram);
30. **Mazda 1999-2004 immobilizer emulator** – replace defective Mazda immobiliser. Best installation place is inside immobilizer or motor ECU.

Connection diagram:
UNIEMU immo word for Mazda is **13119387**. You need to change immo word inside motor ECU. For ex. RF4W motor ECU with 93C56 EEPROM:

```
00000000 00 00 5A 00 5A 00 5A 00 00 00 00 00 00 00 00 00 ..Z.Z........
00000100 00 00 00 00 3E 00 **11 13 87 93** FE 00 AA 3D 55 91 ....>....=U.
00000200 5C 00 AA 1E 55 91 00 00 00 00 00 00 00 00 00 00 \...U.........
00000300 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .................
00000400 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .................
00000500 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .................
00000600 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .................
00000700 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .................
```

Others Mazda ECU code word location you must find **yourself**.

---------------------------------------------------------------------------------------------------------------

On diagrams you can find color codes:

<table>
<thead>
<tr>
<th>Color codes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
</tr>
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<td>-------</td>
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<td>12</td>
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</table>

For ex: BUPK = blue wire with pink line.