

It's not a secret, that incorrect car alarm connection on BMW is often seen problem, which results with discharged car battery. This is according to connection mistakes of door and boot zones. On 3 series E46 door switches has special construction, which makes unable to connect and some installators uses interior light panel. This is not optimal solution. For example, if interior light panel is switched off, then door zone will not work. For these installation should be used additional inventor, diodes and relays. It takes a lot of time and materials and not always bring appropriate level of correctness. Some of car alarm systems, for example, which are armed and disarmed with a car original remote control, it is impossible to connect without demolation car wiring harness. Anyway these problems can be solved in such a easy ways:

### BMW K-BUS line demultiplexers

Demultiplexer is supposed to decode digital bus signals to analog. It is used on BMW vehicles, which uses K-bus communication in electronical equipment - 3, 5, 7 and x series cars with manufacturer body type: e39, e38, e46, e53, e83. This is necessary for correct connection of immobilisers and car alarm systems to any type, including alarm systems, which are armed and disarmed with a car original remote control. Demultiplexer reads digital K-bus and emit signals in analog way to connect directly car alarm inputs. In analog outputs of demultiplexer are these signals:

1. Driver door opened switch
2. All others doors opened switches
3. Boot opened switch
4. Bonnet opened switch
5. Locking via car original remote control
6. Unlocking via car original remote control
7. Unclosed windows state

All outputs signals are negative polarity, open collector 500 mA.

Unclosed window signal status of electronic windows raiser on output No. 7 could be configured with jumper No. 3 depending on which output work logic is necessary. Central locking closure signal lenght is 2 seconds.

To connect demultiplexer in accordance to the polarity, it should be connected to power in compliance with designation on demultiplexer board and digital Kbus line from car to demultiplexer input (see photos). Analog outputs on opposite side of demultiplexer board are marked with digits in accordance with that number, which is mentioned above and are connected to car alarm inputs using connection schemes.

Attention!

1. By output No. 7 are diagnosed only those unclosed window raisers, which controls are made by vehicle manufacturer using „one touch closing and opening” function.
2. Jumpers on board are used to configure demultiplexer work.
  - 2.1. Jumper No. 1 (see photo) is used to set the number of doors. If jumper No. 1 is closed state – for vehicles with 4 doors, if open – for cars with 2 doors.
  - 2.2. Jumper No. 2 (see photo) specifies output No. 5 and 6 algorithm. If jumper is open, then will follow signal to output about vehicle original door locking remote control running. If jumper is closed, then signal will be made anyway to central door locking and unlocking.
  - 2.3. Jumper No. 3 (see photo) specifies output No. 7 algorithm. If jumper is open – output is active while window raisers are open. If jumper is closed – output is active while window raisers are closed. It is easy while using additional security moduls for volumetric protection of interior.
3. Signal on output No. 5 – closing with control happens, when press release button for close on the vehicle original remote control. It is necessary for comfort windows closing, in addition it prevents notification about unclosed windows.

