

10.7.5. Instructions for commissioning the motherboard

After soldering the motherboard do not plug the microcontroller immediately.

The three PINs at the terminal of the power supply are: **5V / GND / 24V-36V**

First connect the board to a voltage of about 12V between GND and the right PIN 1 of the JP10.

Now you get a voltage of 5V from GND to pin 3 which just has to be measured.

Only now check and solder the resistor R20.

This resistor between 10k and 47kOhms must be determined so that the voltage at the above PIN is left relatively accurate 5V.

A free insertion of appropriate resistors in the holes of R20 already makes for a good contact and allows the measurement of the voltage.

After soldering the selected resistor connect the planned supply voltage of 24V to 36V to the right PIN 1. Create and verify on the left PIN again 5V.

Important: When replacing components always remove the power supply.

Then connect the display and turn the contrast potentiometer fully to the left.

Recreate 12V-24V on the right PIN 1. The display will show many dark squares inside the display area. This is normal.

Now, the microcontroller can be plugged into the socket.

Again connect the supply voltage.

Now the software version number appears in the display.

The contrast can be further optimized by adjusting the contrast potentiometer.

Next step is the connection of the sounder (speakers, piezo) and MPU-6050 board. When you turn on you will hear a little tune.

For further steps a steering-handlebar potentiometer and a foot switch are now required.

The jumper JP7 / 2-3 must be plugged in using the BTS-H-bridges. (See BTS in the LCD)

To make further tests connect JP7/1 with GND (JP1/3).

The following tests are described in detail elsewhere in the documentation.

Please be sure to perform all tests !!

In the last phase these tests include the H-bridges, first with lamps, and later the engines will be connected.

These tests should be performed after installation of the board in the vehicle before the software is used in normal operation.

If the sensor is installed properly and the vehicle is tilted forward, negative angles are displayed.

If the motors rotate at a tilt of the vehicle in the wrong direction, the polarity of the connections must be changed.

The software will show a message on the display when connecting a wrong supply voltage.

There is an automatic switching to the parameter mode and the software is accepting an input from a PS/2 keyboard connected to the serial input.

By pressing the key "U" you can enter a voltage of "25" when you are using 24V or "37.5" when you are using 36V.

The voltage you entered determines the level switching the relays on.