ChipLoaderNG

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Module [52] Delphi MT38 - OBD2 - Boot

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Content

Purpose

The module is designed to work with ECU Delphi MT38 installed on Kia / Hyundai vehicles. The module supports the following ECU modes:

1. Work via OBD2 connector
2. Working on a desk in boot mode

In the mode of operation via OBD2 connector it is possible to read (only for ECUs working via KLine), write firmware, obtain ECU identification data, read and reset DTCs.

In boot mode, reading, writing tuning firmware, cloning an ECU are available on the table.

In all writing modes, firmware checksum correction is available.

It is possible to disable the immobilizer in the firmware.

Necessary equipment

The module has been tested with the following J2534 devices:

1. CHIPSOFT J2534 (Lite/Mid/Pro/acrylic)
2. Tactrix Openport2 (J2534 DLL version must be 1.01.4247 Apr 18 2014 16:14:11)
3. DrewTech Mongoose

Optionally, for the convenience of working in boot mode, you need a CHIPSOFT OBD2 BreakOut Box.

Automatic power management

The module in boot mode can use both automatic and manual ECU power management. Power is controlled by shorting the L-Line CHIPSOFT J2534 adapter to ground. For automatic power management and convenient connection to the ECU, we recommend using the CHIPSOFT OBD2 BreakOut Box. When you start working with the ECU, the program will ask you the preferred way to manage power.
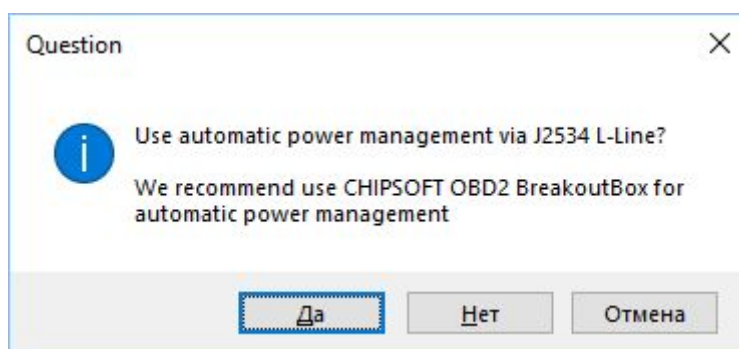
It is possible to choose both manual and automatic power management.

Checking data for writing

The program performs various checks on the firmware file before it is written. If the checksums are incorrect, the program will offer to fix them:
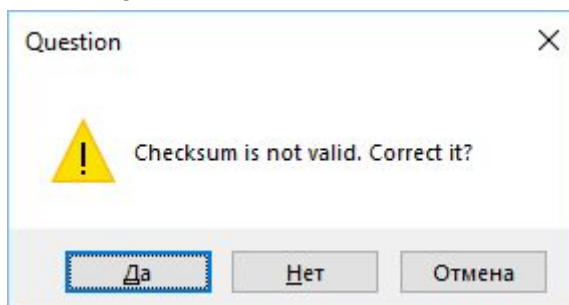
Also, after reading, the program will automatically check the checksum in the read firmware and give information about it.

ECU identification, read and reset DTCs

These operations are available without a license for the module and can be used for informational purposes.
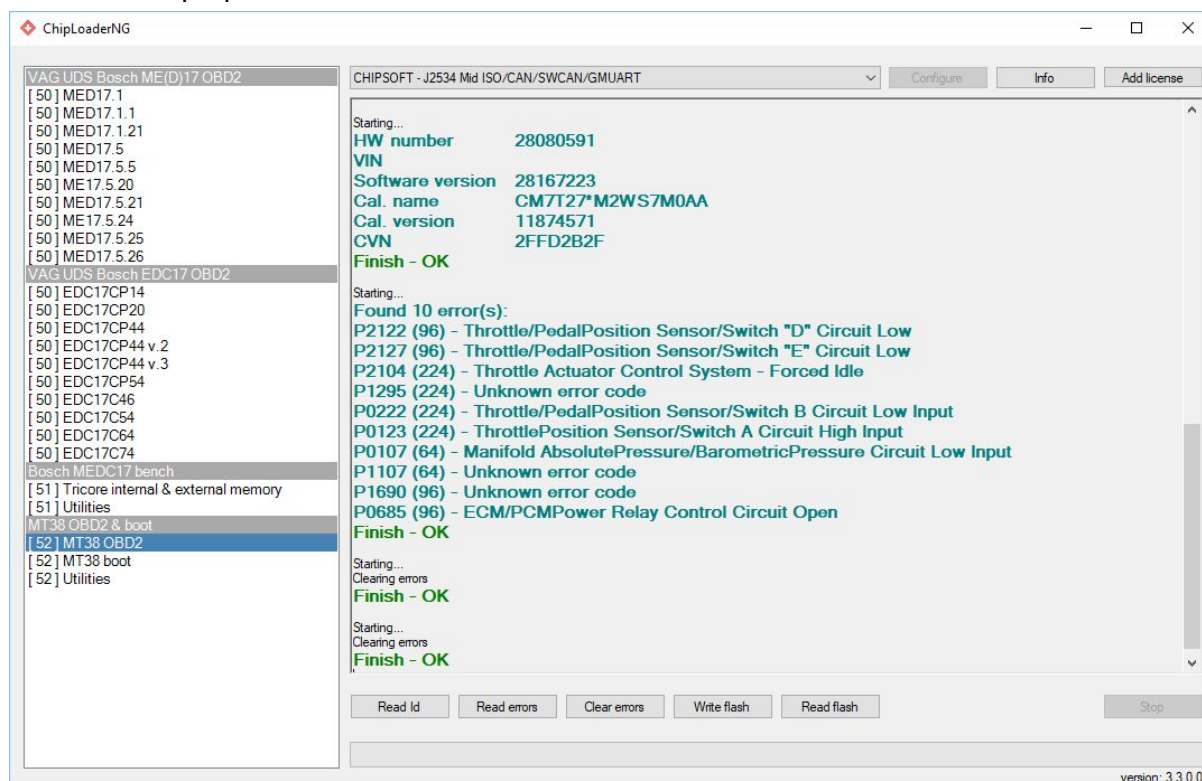
Work via OBD2 connector

This mode is used for regular reading and writing of firmware directly on the car. There are 2 types of MT38 ECUs, some of which work on KLine (until about 2007) and work on the CAN bus (after 2007). Both types of ECUs can be writed. Reading is possible only for ECUs working on KLine. To read ECUs working on the CAN bus, you must use the boot mode.

The program automatically detects the type of ECU and the user does not need to choose anything on his own. If the ECU cannot be read, the program will write about it.

In the mode of operation via OBD2 connector, writing of both ECUs operating via KLine and CAN bus is supported. The program automatically recalculates the firmware checksum, if necessary. The software and calibration areas are writed. This mode is used for writing tuning firmwares. For cloning operations, ECU recovery, you must use boot mode.

Working on a desk in boot mode

To work in boot mode, in addition to the standard pinout of the ECU, apply + 12V to pin A-24. Data transmission in boot mode is carried out via KLine, therefore, it is imperative to connect KLine. The CAN bus in boot mode does not need to be connected, it is not used in this mode, even if the ECU is running on the CAN bus for diagnostics.

In boot mode, it is possible to read a full flash dump (**Read flash** operation) of memory for any Delphi MT38 ECU without any restrictions. It is in this mode that you can read the firmware from the ECU operating on the CAN bus.

There are also two options for writing the firmware to the ECU:
1. Writing the bootloader area, software, calibrations (**Write flash** operation). This option should be used when you need to write serial / tuning firmware.
2. Writing bootloader area, software, calibrations, virtual eeprom (**Clone flash** operation). This option should be used when you need to make a complete clone of the ECU.

This mode can also be used to recover the ECU in case of writing incorrect firmware to it and also allows you to recover the ECU in any case.

Disabling the immobilizer in the firmware

In the **Utilities** section, the operation of disabling the immobilizer in the firmware (**Immo off**) is available. To do this, you need to select the file with the firmware in which you need to disable the immobilizer. The result of the operation will be a firmware file in which the immobilizer is disabled and the checksum is adjusted accordingly.

If the immobilizer is already disabled in the firmware, the program will display a corresponding message:
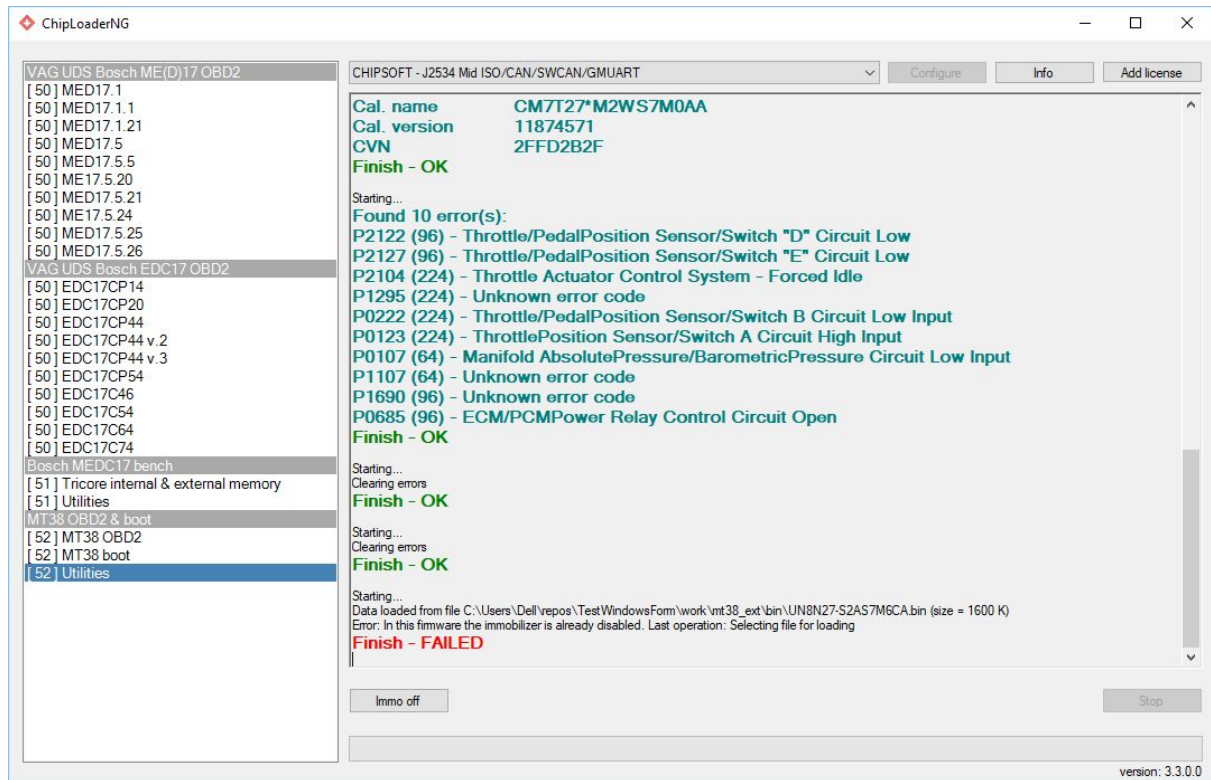
After writing the received file, it is necessary to turn off the immobilizer antenna on the car, otherwise, there will be no start.

Delphi MT38 ECU pinout

- B-39 - Ground
- A-40 - +12V, main relay power supply
- B-76 - +12V, non-switchable power supply
- A-41 - CAN Hi
- A-42 - CAN Lo
- B-12 - +12V, ignition
- A-27 - KLine
- A-24 - Boot (to switch the ECU to boot mode, you need to apply + 12V to this pin. For OBD2 mode this pin does not need to be connected anywhere)

Possible problems and solutions

In OBD2 mode, you can programmatically breaked the ECU by writing incorrect firmware to it. In this case, the ECU can always be restored in boot mode, having the correct firmware for the corresponding ECU.