

Magneti Marelli M4 / M4A (32M4_ / 32M4A)

For ASW-NEXT

Short User Manual



February 2025

NOTES:

Antenna and LED are optional components. They should be connected only to test key validity on-the bench.

Place antenna on the ignition lock. Transponder may not be read correctly without ignition lock inside the antenna coil!

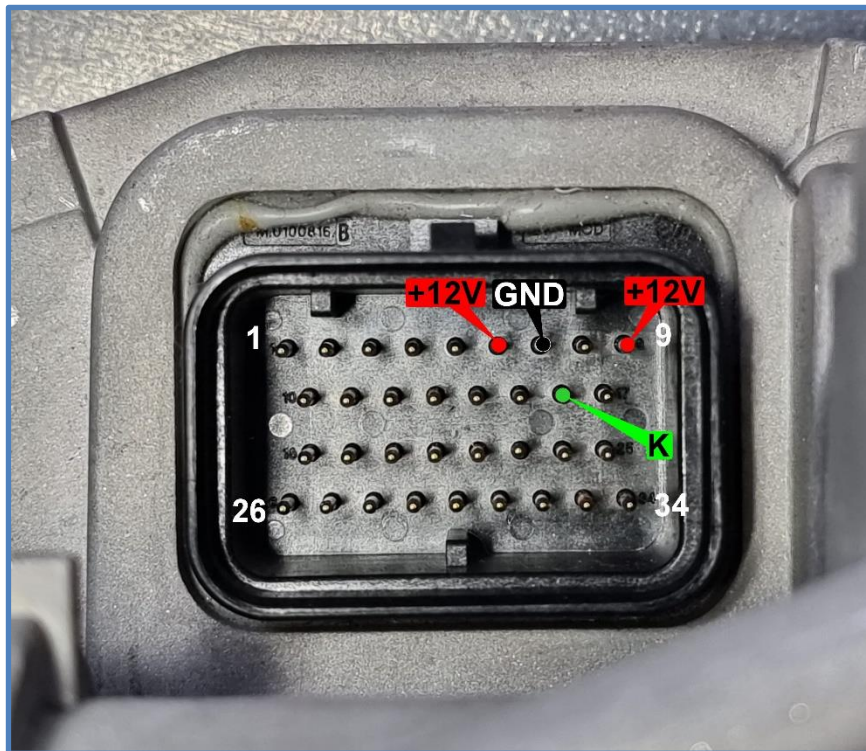
NOTE: It is not necessary to connect antenna and LED for key programming or reset-to-VIRGIN procedures to perform.

Reset M4 / M4A to VIRGIN before to program IMMO-OFF dump to the FLASH. IMMO-OFF mode is not possible when EEPROM contains key programming data!

1. How to identify M4 / M4A



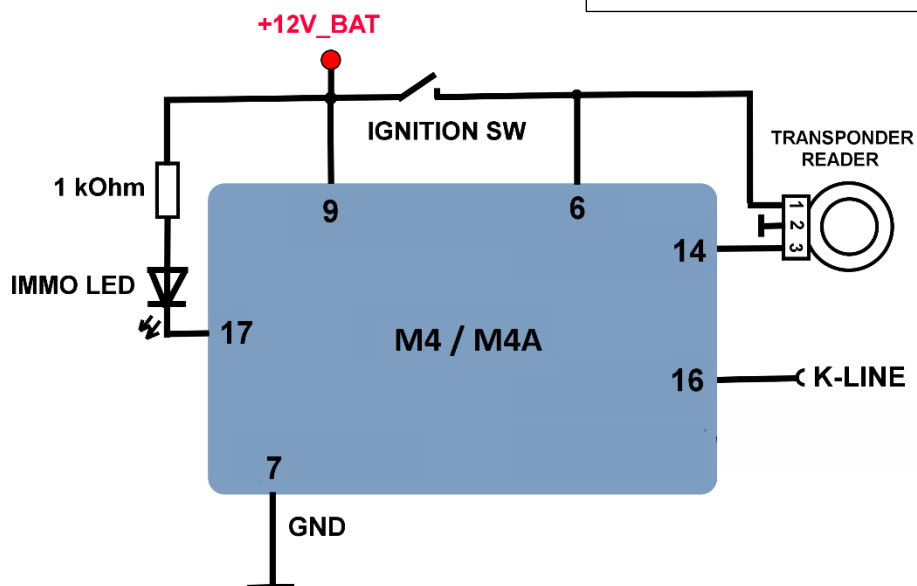
2. How to connect on-the-bench?



Antenna on the ignition lock



Transponder Reader (Antenna) pinout



NOTE: Transponder reader (antenna) must be mounted on the ignition lock when testing on-the-bench or in the scooter. Transponder may not be read correctly without ignition lock being inside the antenna! IMMO LED will blink fault code 2 (KEY NOT DETECTED).

3. How to connect in the scooter?

- ✓ Connect **RED** and **BLACK** crocodile clips of ASW-NEXT interface to “+” and “-” of scooter battery
- ✓ Connect **GREEN** wire of ASW-NEXT interface “K” in the diagnostic connector. Prepare yourself a piece of wire to make a bridge between green wire of ASW-NEXT and the diagnostic connector.



K-Line

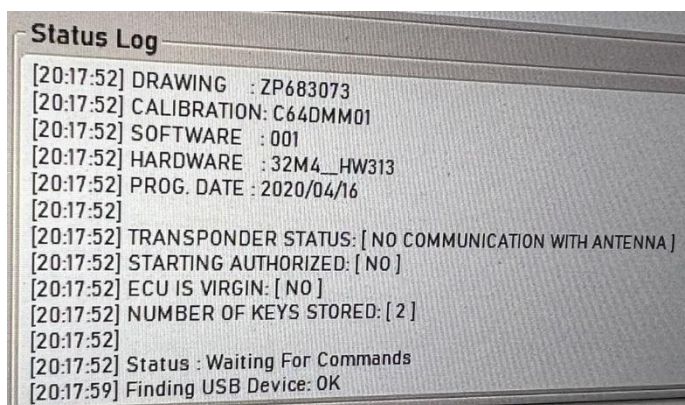


K-Line

4. Software features

- ✓ Read / Write **EEPROM** M95640
- ✓ Read / Write **FLASH** (write range of software and calibrations 20000-7FFFF)
- ✓ Reset M4 / M4A to **VIRGIN** state
- ✓ Reset M4 / M4A to **IMMO-OFF** state
- ✓ Read / Set transponder data from / to EEPROM of M4 / M4A
- ✓ Reset auto-adaptive values
- ✓ Enable / Disable **ASR** feature (for ECUs with ABS / ASR)
- ✓ Read / Erase diagnostic trouble codes (DTC)

Explanation of statuses:



TRANSPONDER STATUS

- OK – transponder was read correctly and it was recognized as valid
- KEY NOT DETECTED – no T11 transponder was detected by antenna
- KEY NOT RECOGNIZED – T11 transponder was detected but its value is not stored in M4/M4A
- NO COMMUNICATION WITH ANTENNA

STARTING AUTHORIZED

- YES – engine start enabled
- NO – engine start disabled

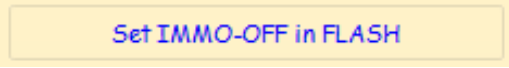
ECU IS VIRGIN

- YES – key programming not done, ECU is blank
- NO – key programming done

NUMBER OF STORED KEYS

- 0-8 – actual number of stored keys (0 for VIRGIN ECU)

5. How to set IMMO-OFF

- Read FLASH from control unit by K-Line or load existing FLASH file
- Press 
- **Save File** dialog will popup to save modified file
- Reset control unit to VIRGIN. This is important because **IMMO-OFF mode is not possible when EEPROM contain key programming data**
- Program modified FLASH file to the control unit by K-Line
- Read identification. Now statuses should look like this, even without a valid transponder:

```
TRANSPONDER STATUS: [ OK ]  
STARTING AUTHORIZED: [ YES ]  
ECU IS VIRGIN: [ YES ]  
NUMBER OF KEYS STORED: [ 0 ]
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