

# MAFLESS Tuner Quick Start

Software Download  
<https://tunemods.com/mafless/>

## Very easy with "MAF sensor extension harness"

KEY ON = 12V



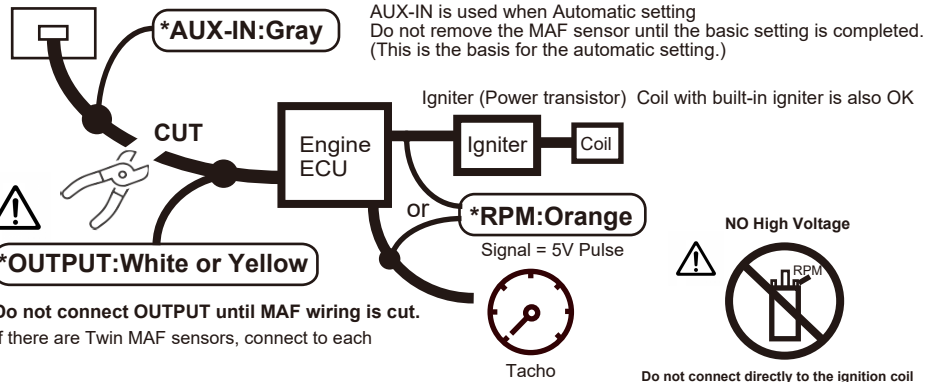
\*12V Power supply:Red

\*GND:Black



**Note:**  
The power supply can be MAF sensor 12V power supply and ground.  
Wiring that does not turn off while the engine is starting

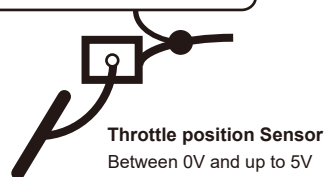
MAF Sensor



**Do not connect OUTPUT until MAF wiring is cut.**  
If there are Twin MAF sensors, connect to each

**Note: Intake temperature sensor**  
If the Genuine MAF sensor has a built-in intake air temperature sensor, add a temperature sensor or leave the MAF in the engine compartment. (Intake A place equal to the intake temperature)

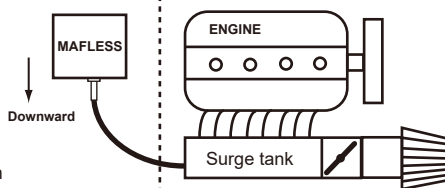
\*Throttle Sensor:Blue



If the throttle sensor has two outputs, use the one with the larger difference between minimum and maximum.

\*Vacuum and Boost (turbo) Tube

Install the MAP sensor connection port in the downward direction.



### Replaceable MAF sensor

OK : Mass airflow sensor (including mechanical type) up to 5V output  
NO : Karman sensor, mechanical airflow sensor over 5V output (mainly before 1985)

### We strongly recommend

Detachable connector that can be easily returned before modification when a problem occurs.  
Recommended to use MAF sensor extension harness

### For racing use only

This product is not intended for use on public roads.  
Please use it in accordance with your country's laws.  
We are not responsible for any problems that may occur



**Caution : Do not connect the OUTPUT wiring until the MAF sensor wiring is cut.**  
MAF sensor output and MAFLESS output are short-circuited.

- 1. Install the MAFLESS Manager on a PC running Windows 8 or later.**  
Connect the MAFLESS to the PC with the USB cable and press the Connect button to go online.
- 2. Set the number of cylinders of the engine.**  
For waste ignition engines, set the number of cylinders to half. Set the actual RPM to match the display.
- 3. Throttle calibration**  
Press "Ratio set" and repeat opening and closing the throttle at least three times.  
Press "Save" to store the setting in MAFLESS.
- 4. Press "Auto Setting" and drive for at least 10 minutes in various conditions.**  
This will build a 3D map based on the AUX-IN of the MAF sensor.  
Set the map manually according to the unused portion of the map and the amount of air intake.
- 5. Disconnect the MAF sensor wiring, and then connect the MAFLESS OUTPUT wiring.**  
**How to change the data (Only when MAFLESS is online)**  
Enter numerical values directly into the cells or  
Shift + directional key to select range Control + up/down key to increase/decrease or  
Drag with the mouse and increase or decrease with the Data Add (Sub) button
- 6. "MAP vs RPM" is the basic map for setting.**  
This is a 3D map with RPM on the vertical axis and intake pressure on the horizontal axis.  
D-Jetronic is used by most engine management systems.
- 7. "Throttle" uses speed density to correct power output based on gas pedal position.**

**More detailed settings** (recommended to use in standard condition until you understand the function)

### Map Grid setting

MAP grids for important areas can be set in detail.

### Output Limit allows you to set the upper and lower limits of the output.

The upper limit can be avoided if the ECU has a limiter.  
The lower limit avoids engine stalling and sensor lower limit errors.

### Idle Smoothing

Use when hunting of engine speed occurs. Smoothes out below a set rpm with a 1 second average.

### Throttle map is Alpha-N control

Further throttle correction is made to the result of MAP vs RPM.

### Password protection

When a password is set, it can be added to the setting data.  
If the password is lost, the setting data cannot be retrieved.  
However, with MAFLESS Data erase, all data can be erased and initialized.

### Batch data write

Batch write data read from a file to MAFLESS. (Manual data changes will be written in real time.)

### MAFLESS data erase

Reset the MAFLESS to factory default. (The password will be reset)

### Data Logger

Log data will be captured for up to one hour. (If you want to keep the data, save it to a file)

### Range settings for gauges, charts, and graphs

Double-clicking a gauge or chart allows you to set the range and red zone.