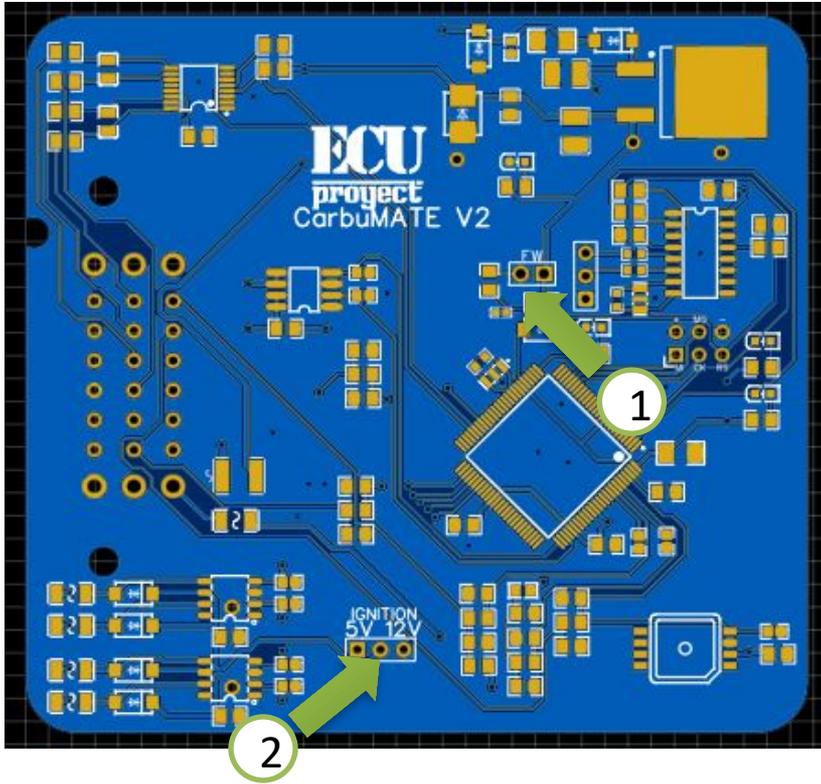


# CarbuMATE QUICK GUIDE

Use Board Layout: UA4C



- 12V.- power supply for ECU (normally to switch)
- 5V.- 5V output for sensors (TPS, MAP)
- GND.- ground, the ground is common for sensors, and other devices
- IGN1, ING2, IGN3, IGN4.- Ignition banks 1,2,3 and 4 (up to 8 coils)
- CLT.- antifreeze temperature sensor
- LNCH.- input to activate launch control (IT IS ACTIVATED WITH GND OF THE SAME ECU)
- VR1+.- OPTICAL or HALL type crankshaft or CKP sensor input, also configurable as VR positive pulse
- VR2+.- tree or CAM sensor input, OPTICAL or HALL type, also configurable as VR positive pulse
- VR1-.- is only used in case of configuring the crankshaft sensor as VR type, this is the negative complementary pulse input
- VR2-.- is only used in case of configuring tree sensor as VR type, this is the negative complementary pulse input
- FAN.- output for radiator fan (use with relay)
- TACH.- output for tachometer
- MAP.- input to connect an external MAP or TPS sensor

## Jumpers (selectors)

- 1.- Remove selector to save firmware
- 2.- Selector to choose ignition outputs at 5V or 12V

For OPTICO/HALL place PULLUP resistors

**INTEGRATED VR board**

# Carbumate

|    |      |      |      |      |        |        |     |
|----|------|------|------|------|--------|--------|-----|
|    | CLT  | MAP  | IGN4 | IGN3 | IGN2   | IGN1   | 5V  |
| A8 | A7   | A6   | A5   | A4   | A3     | A2     | A1  |
|    | VR1+ | VR1- | VR2+ | VR2- | Dig In | Launch | 12V |
| B8 | B7   | B6   | B5   | B4   | B3     | B2     | B1  |
|    | FAN  | Tach |      | GND  | USB-   | USB+   | GND |
| C8 | C7   | C6   | C5   | C4   | C3     | C2     | C1  |



colors may vary

 To USB

For information on TunerStudio configuration Please consult the ProjectECU manual

View from the ECU



**WARNING**  
Do not save tunes or megasquirt files in this ECU, this ecu IS NOT MEGASQUIRT, it is not clone of megasquirt either. So saving an incompatible tune will cause the ecu not to synchronize time and failures will occur.

**RECOMMENDATION:**  
Follow the Tutorial1 and the virtual drive files to connect to the ECU and do the Hardware test!  
Do this before you install the ECU!

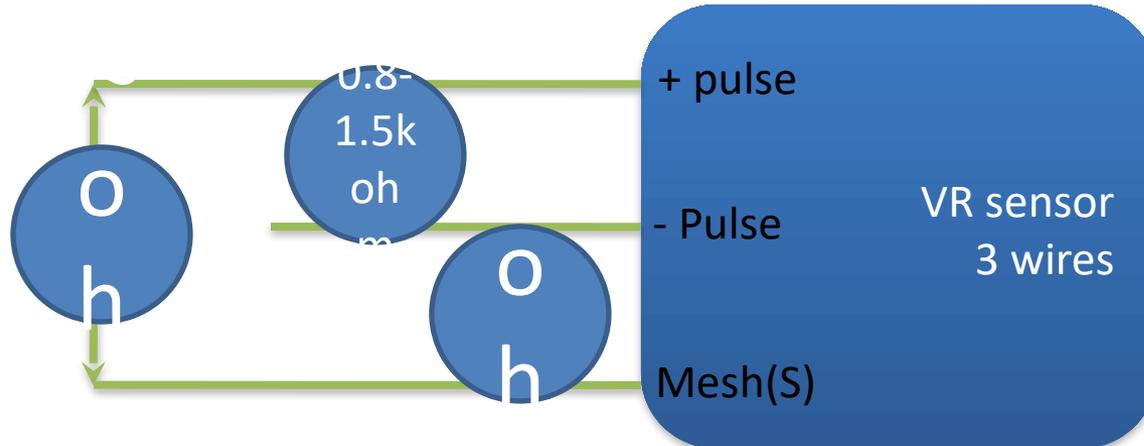
## How to find the signals of my VR sensor

There are 2-wire and 3-wire VR sensors, in the case of the 2-wire ones it is easy to connect them, but for the 3-wire one there is confusion because we have a cable that has no signal and can cause failures.

To find which is the pair of signals, a multimeter is used to measure ohms.

Take a pair of pins and place the multimeter, if the resistance is infinite then we have that we are taking a signal pin and a mesh pin

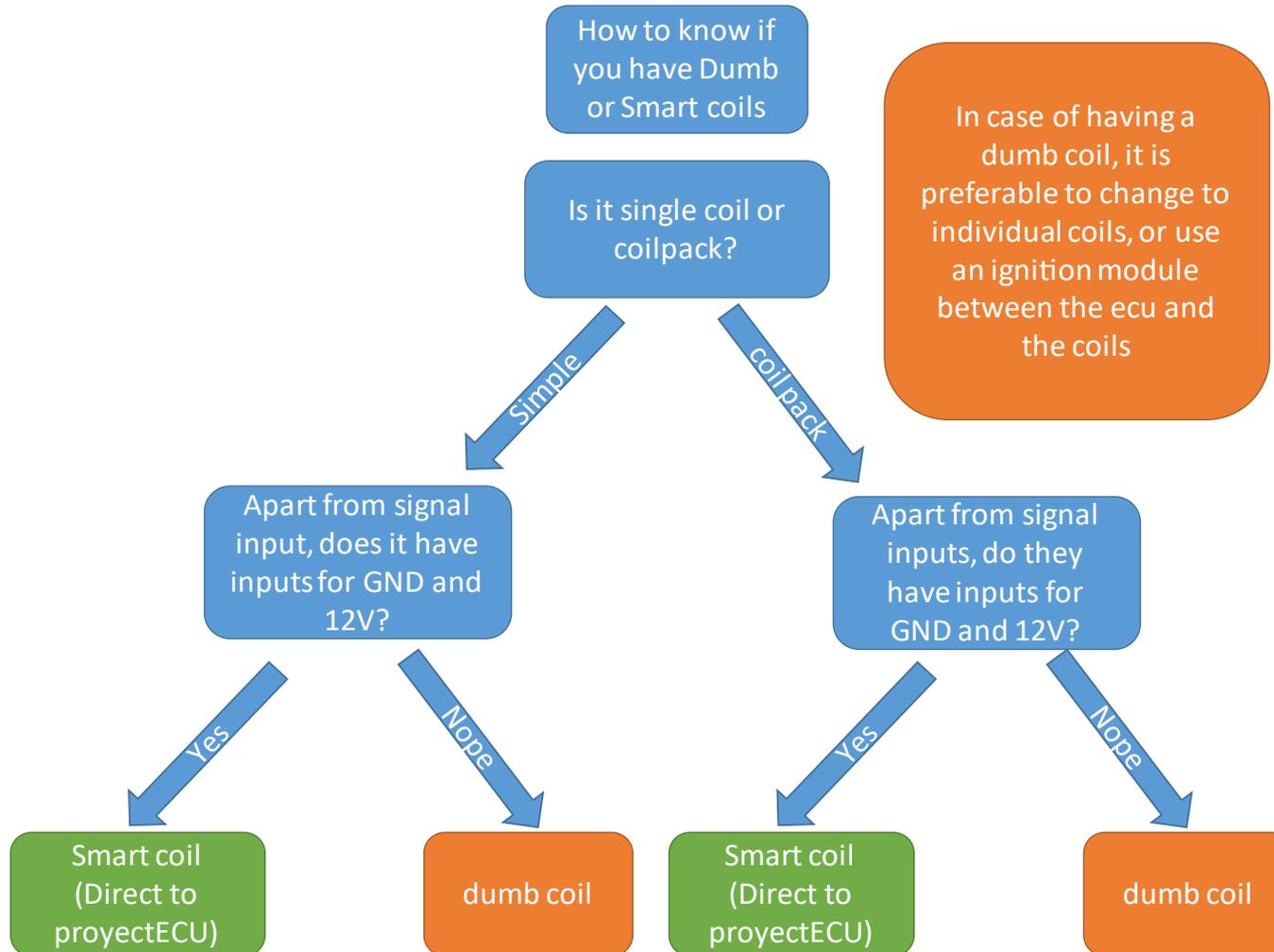
We change pins until it gives us a resistance between 0.8k ohm to 1.5k ohm.



# coil types

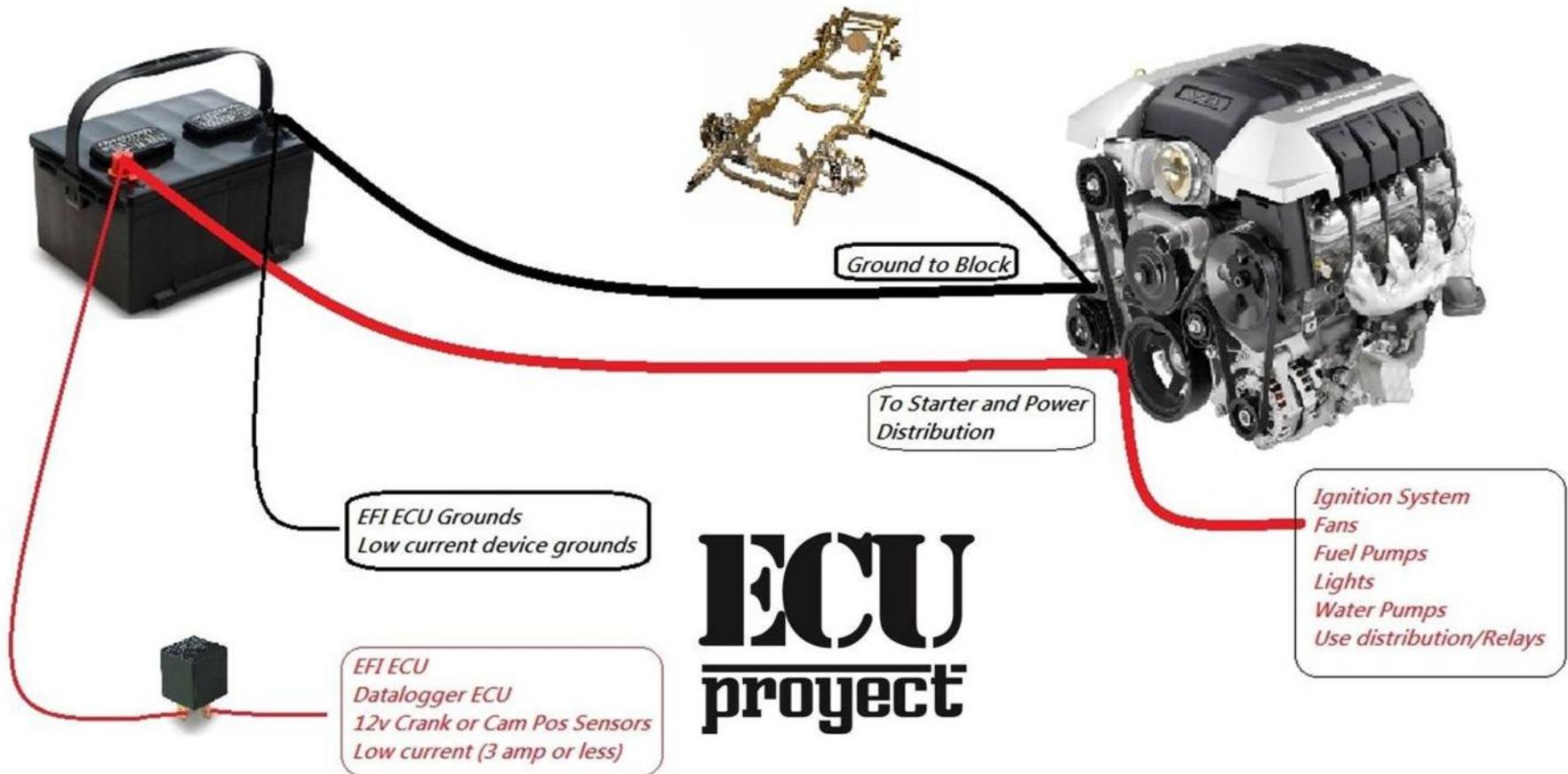
There are 2 types of coils, this small guide can indicate what type of coils we have.

In general it can be summed up that if the coil or coil pack has 12v and GND, it is a coil Smart, if it only has 12v OR GND (only one of the two) then it's Dumb coil.



## Ground Connection

The ground connection is VERY important, a bad connection can cause loss of communication with the ECU, sensors with voltage variation, or even damage to the wiring.



# DIAGRAMA BASICO CarbuMATE

Use this diagram as an example

