TITAN 2.0 QUICK GUIDE

Use Board Layout: 16CH

12V.- power supply for ECU (normally to switch)
GND.- ground, the ground is common for sensors, and other devices
5V.- 5V output for sensors (TPS, MAP)
INJ1, INJ2, INJ3, INJ4, INJ5, INJ6, INJ7, INJ8.- Injection banks 1 to 8
IGN1, ING2, IGN3, IGN4, IGN5, IGN6, IGN7, IGN8.- Ignition banks 1 to 8
FLX.- input for Flex Fuel sensor (ethanol content)
IAT.- air intake temperature sensor
CLT.- coolant temperature sensor
TPS.- throttle body position sensor
LNCH.- input to activate launch control (IT IS ACTIVATED WITH GND OF THE SAME ECU)
O2.- input for oxygen sensor (wideband with controller or narrowband straight)
O2_2.- input for second oxygen sensor (wideband with controller or direct narrowband)
VSS.- configurable digital input (nitro, speed, etc)
BRO.- input for Barometric sensor (MAP of 1 bar)
VR1+.- crankshaft sensor input or CKP type OPTICAL or HALL (add pullup) also configurable as positive pulse VR
VR2+.- OPTICAL or HALL type tree or CAM sensor input also configurable as positive pulse VR
VR1-.- is only used in case of configuring crankshaft sensor as VR type, this is the negative complementary pulse input
VR2-.- it is only used in case of configuring tree sensor as VR type, this is the negative complementary pulse input
FAN 1,2.- outlets for radiator fan (use with relay)
FP.- output for fuel pump (use with relay)
TACH.- tachometer output
Idle1.- output for idle valve (2-wire)
BST.- outlet for Boost Control valve
VVT, VVT2.- output for variable shaft
CANL, CANH.- output for CAN communications

Jumpers (selectors)
1.- Selector to choose ignition logic level at 5V or 12V

The ECU comes in VR mode, to connect a hall sensor you just have to place a Pullup resistor!

INTEGRATED VR card

4 bar internal map

TITAN 2.0 QUICK GUIDE

TITAN 2.0

1	2	3	4	5	6	7	8	9	10	11	12
VR1-	VR1+	Launch	CANL	CANH	IAT	VVT	VVT2	IGN2	IGN1	INJ2	INJ1
VR2+	VR2-	Flex	VSS	O2	CLT	BST	Nitro2	IGN4	IGN3	INJ4	INJ3
12V	GND	OilP	NitroIn	TPS	FP	Nitro1	Tach	IGN6	IGN5	INJ6	INJ5
5V	GND	FuelP	O2_2	Baro	FAN	Idle1	FAN2	IGN8	IGN7	INJ8	INJ7

1

12
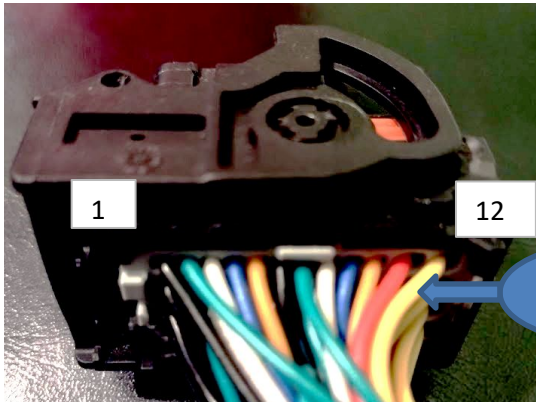
Big Pins

colors may vary

ECU proyect

www.facebook.com/ProyectECU/

CAVEAT
Do not record tunes or megasquirt files in this ECU, this ecu IS NOT MEGASQUIRT, it is not clone of megasquirt either. Therefore, recording an incompatible tune will cause the ecu not to synchronize time and failures will occur.
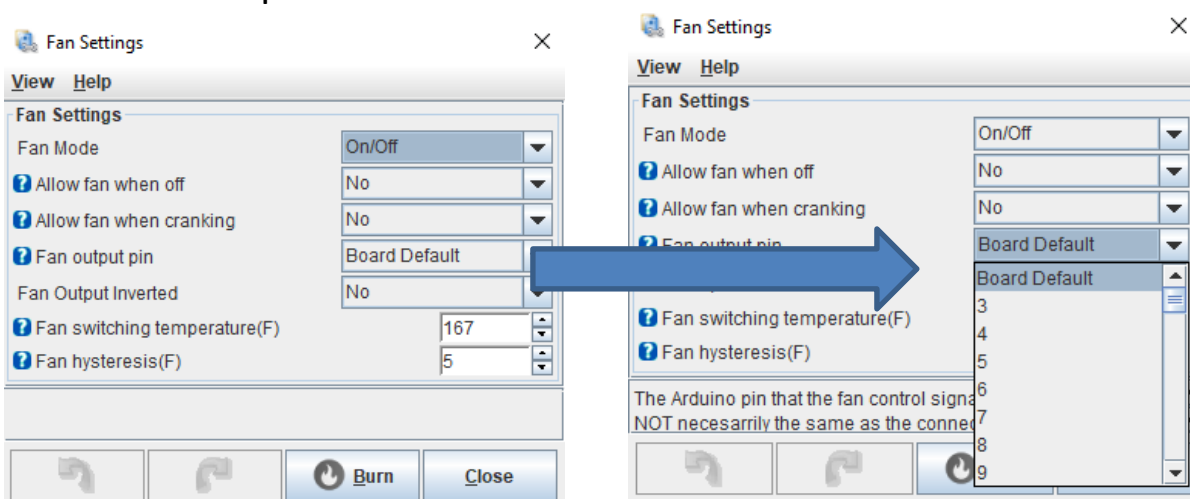
RECOMMENDATION:
Follow the Tutorial1 and the virtual drive files to connect to the ECU and do the Hardware test!
Do this before you install the ECU!

How to assign extra inputs or outputs?

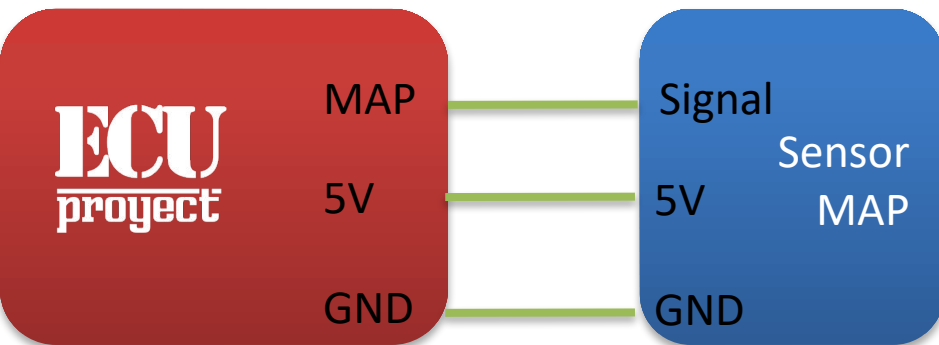Some menus have something called "pin", this is used to assign this function to another available output.

Titan 2.0:

Inputs	O2.- A12 (Analog)
	Baro.- A9 (Analog)
	Oil press.- A13 (Analog)
	Fuel press.- A0 (Analog)
	Launch.- 3 (Digital)
	Flex.- 8 (Digital HS)
	VSS.- 5 (Digital HS)
	NitroArm.- 43 (Digital)
Outputs	Fan2.- 31 (2amp)
	Nitro1.- 29 (2amp)
	Nitro2.- 30 (2amp)

Use this table to find out which pin each reassignable output has.

MAPconnection

ECU proyect

MAP —— Signal
5V —— 5V   Sensor MAP
GND —— GND

IAT or CLT connection

ECU proyect

CLT/IAT —— pin
GND —— pin   Sensor IAT/CLT

TPS connection

ECU proyect

TPS —— Signal
5V —— REF   TPS
GND —— GND
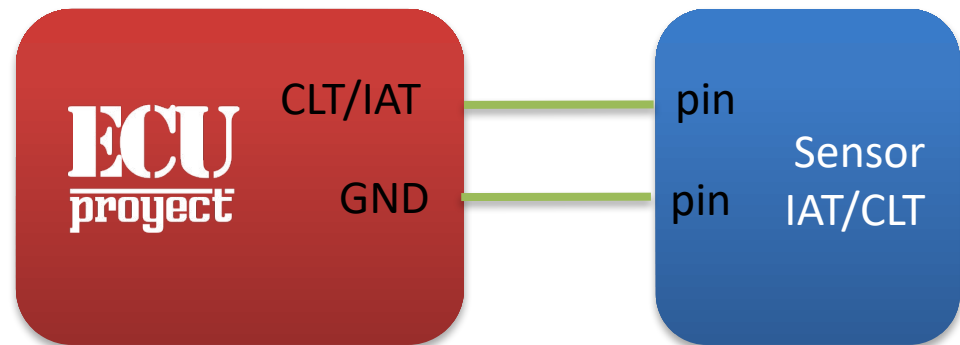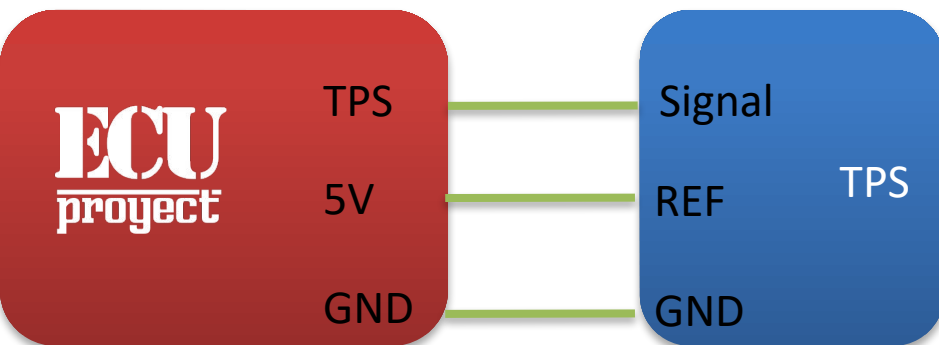
Launch Control Connection

ECU proyect

LNCH —— pin
GND —— pin   Switch/ Clutch
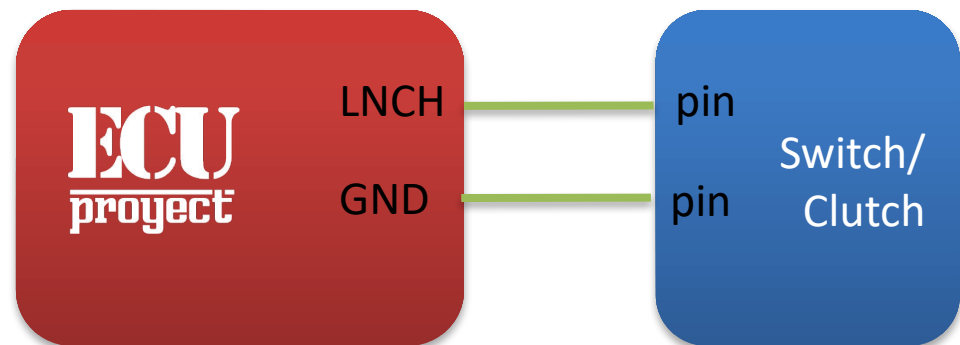
Ignition Connection (Coil)
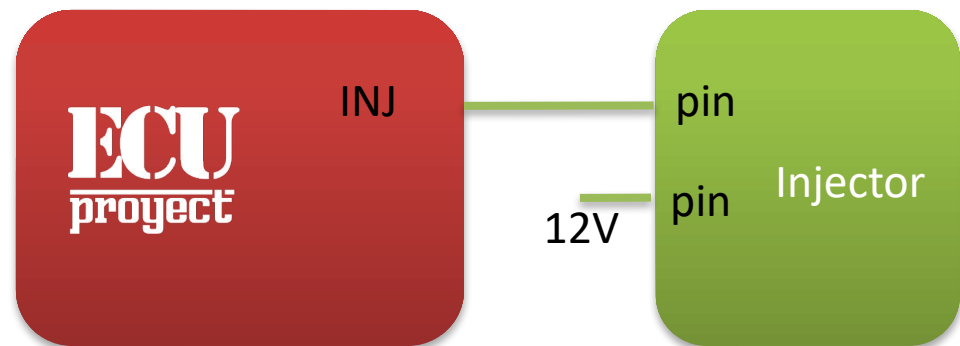
ECU proyect

IGN —— Input
12V —— 12V   coil
GND —— GND
GND reference

Injector connection

ECU proyect

INJ —— pin
12V —— pin   Injector
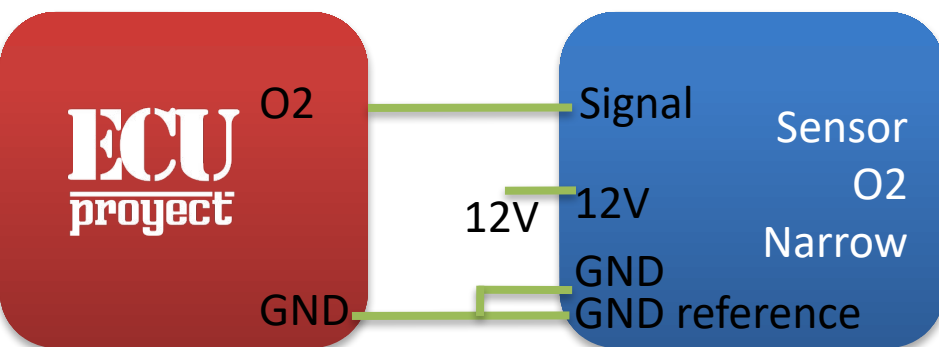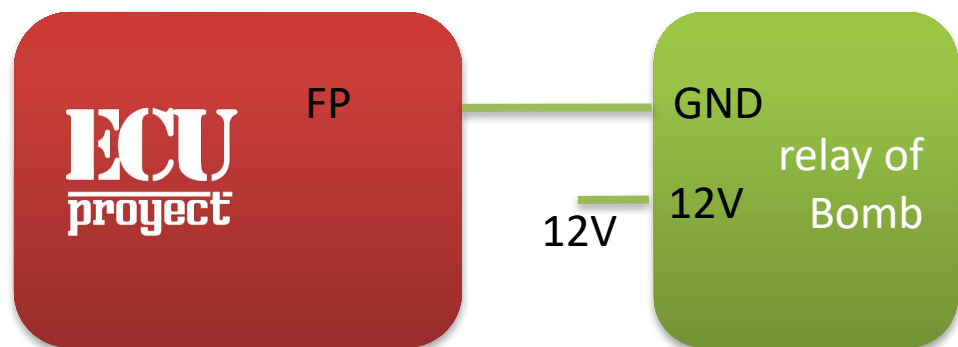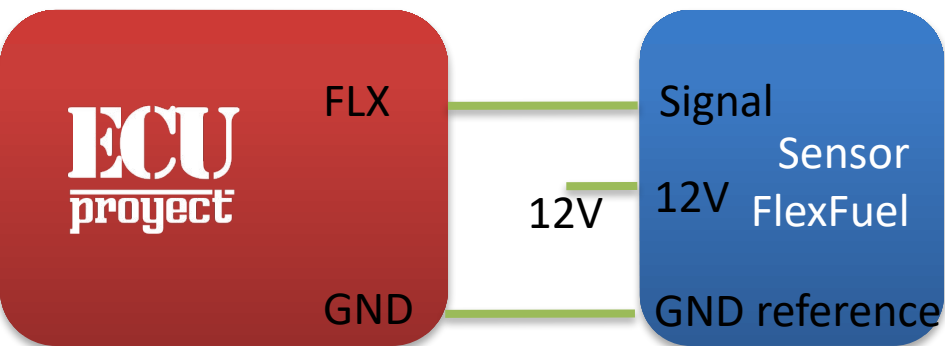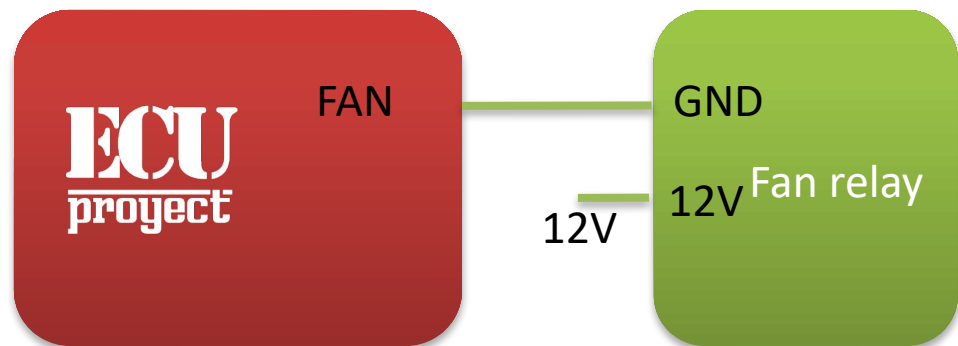
VR Type CKP Sensor Connection

ECU proyect

VR1+ ——— + pulse

VR1- ——— - Pulse

VR sensor 3 wires

GND ——— Mesh(S)

ECU proyect

VR1+ ——— + pulse

VR1- ——— - Pulse
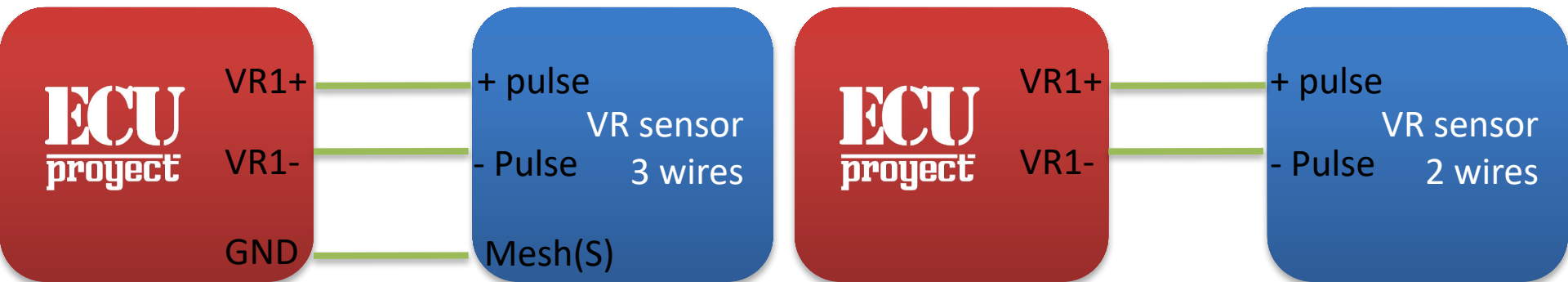
VR sensor 2 wires

Hall/Optical CKP Sensor Connection

ECU proyect

VR1+ ——— Signal

pull-ups

12V/5V

Sensor Hall/Optical

GND ——— GND
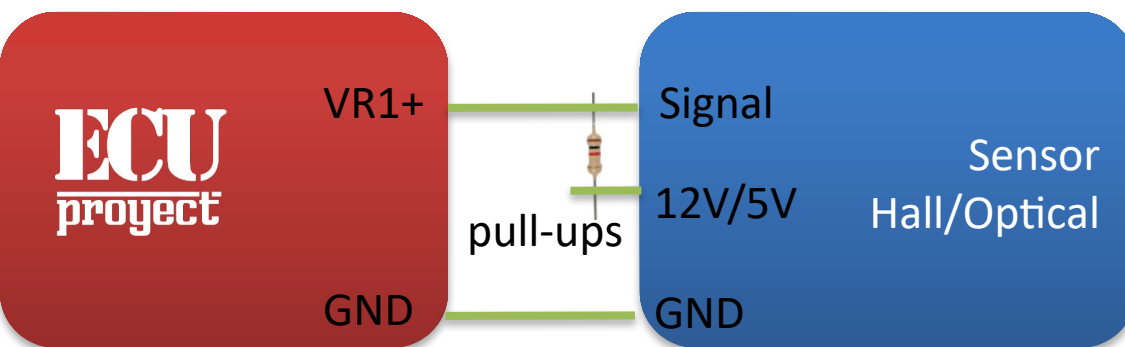
Pullup: Resistance from 1k to 10k. Not all Halls require Pullup (for example some of LS)

Tachometer Connection

ECU proyect

TACH ——— Input

12V   12V

GND ——— GND reference

Tachometer

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.

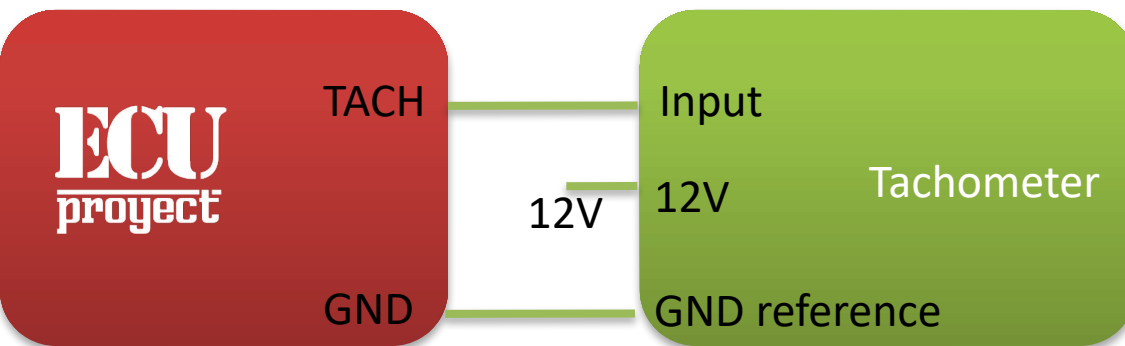Take a pair of pins and place the multimeter, if the resistance is infinite then we have that we are taking a signal pin and a mesh pin

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

∞ ohm

0.8-1.5k ohm

∞ ohm

+ pulse

- Pulse

Mesh(S)
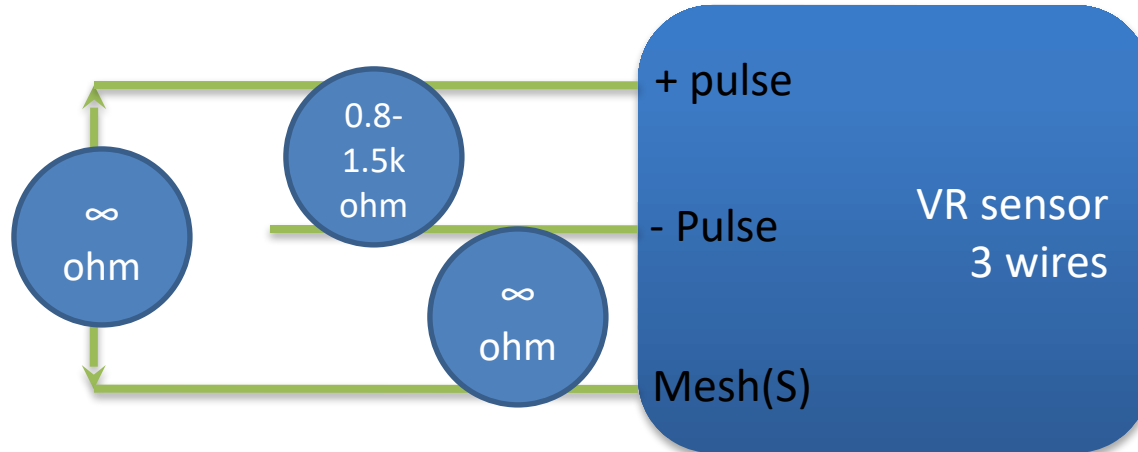
VR sensor
3 wires

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
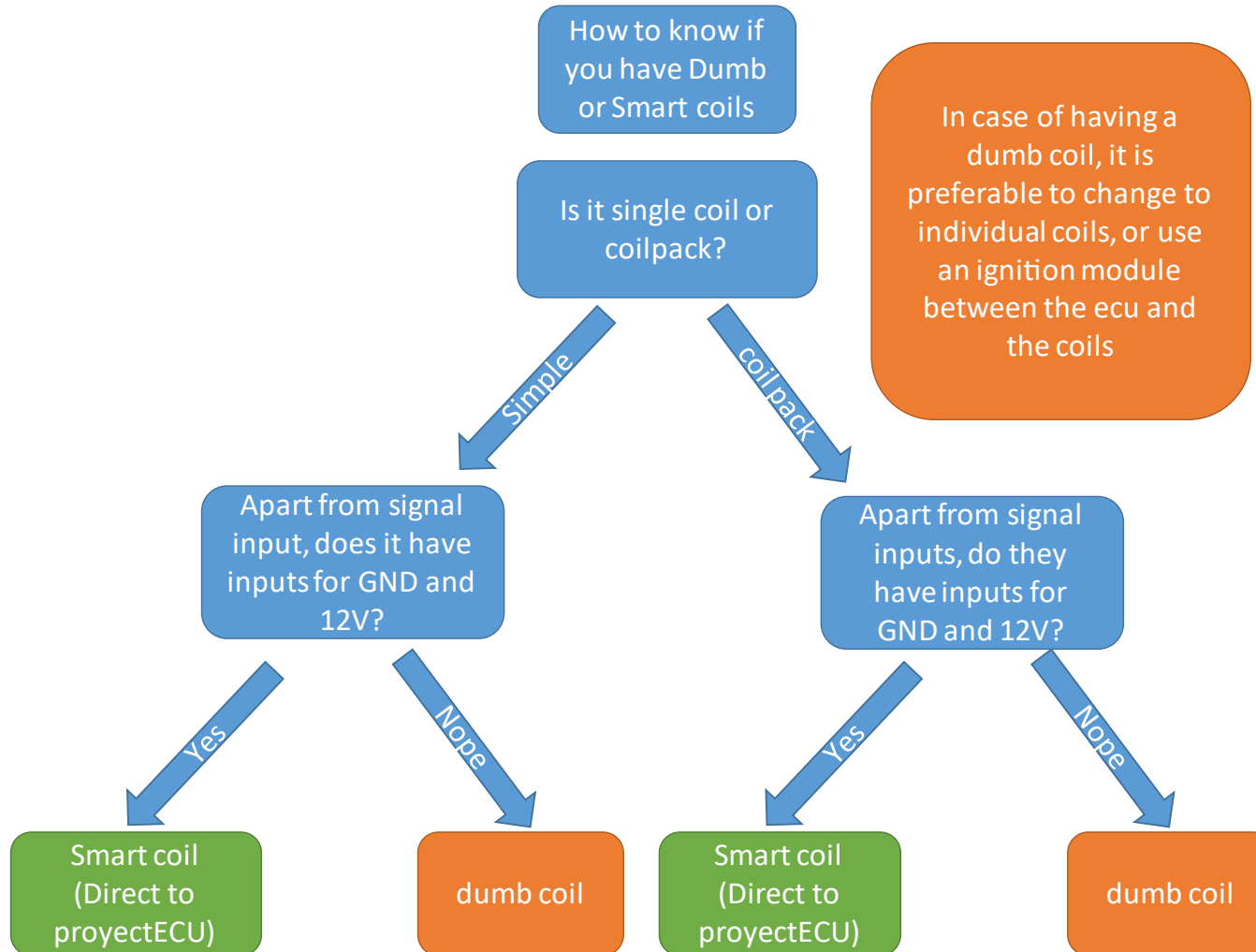Smart, if it only has 12v OR GND (only one of the two) then it's Dumb coil.

How to know if you have Dumb or Smart coils

Is it single coil or coilpack?

In case of having a dumb coil, it is preferable to change to individual coils, or use an ignition module between the ecu and the coils

Simple

coil pack

Apart from signal input, does it have inputs for GND and 12V?

Apart from signal inputs, do they have inputs for GND and 12V?

Yes

Nope

Yes

Nope

Smart coil (Direct to proyectECU)

dumb coil

Smart coil (Direct to proyectECU)

dumb coil

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.

Ground to Block

To Starter and Power Distribution

EFI ECU Grounds
Low current device grounds

EFI ECU
Datalogger ECU
12v Crank or Cam Pos Sensors
Low current (3 amp or less)

ECU proyect

Ignition System
Fans
Fuel Pumps
Lights
Water Pumps
Use distribution/Relays
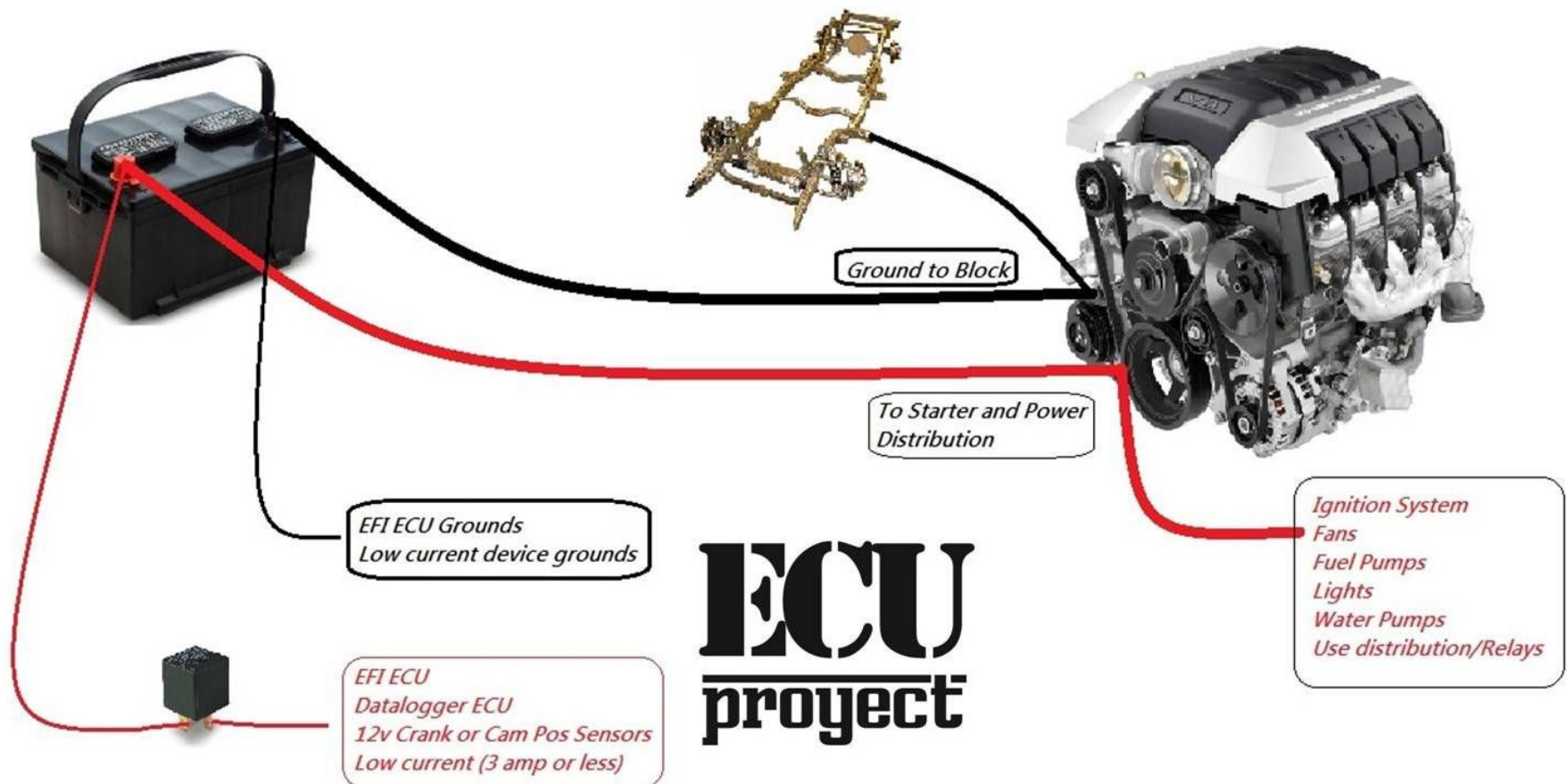
Wideband analog signal connection exists in 2
ways depending on your wideband kit, here
we show 2 examples taking WB aem:
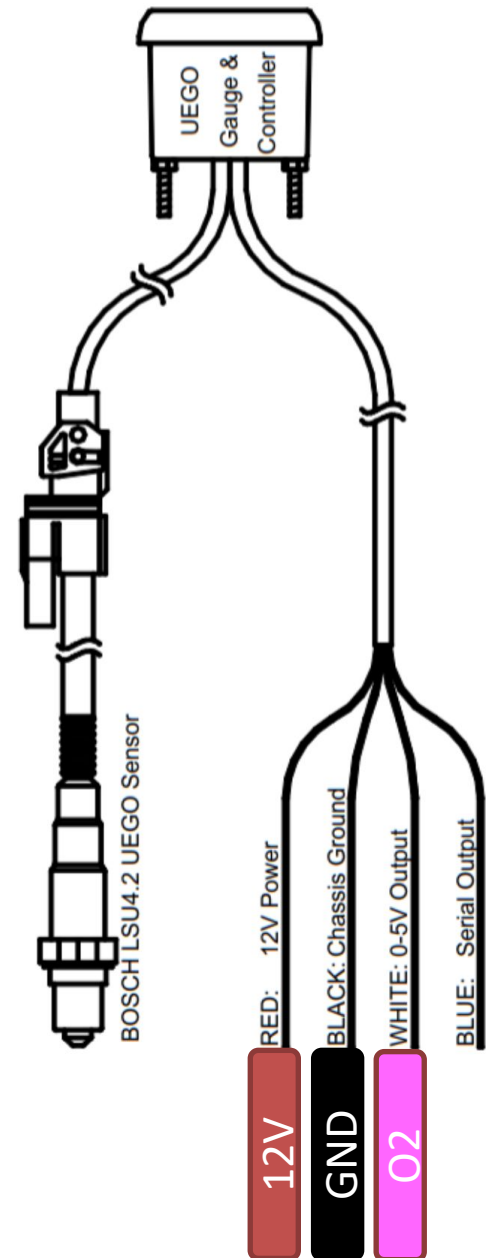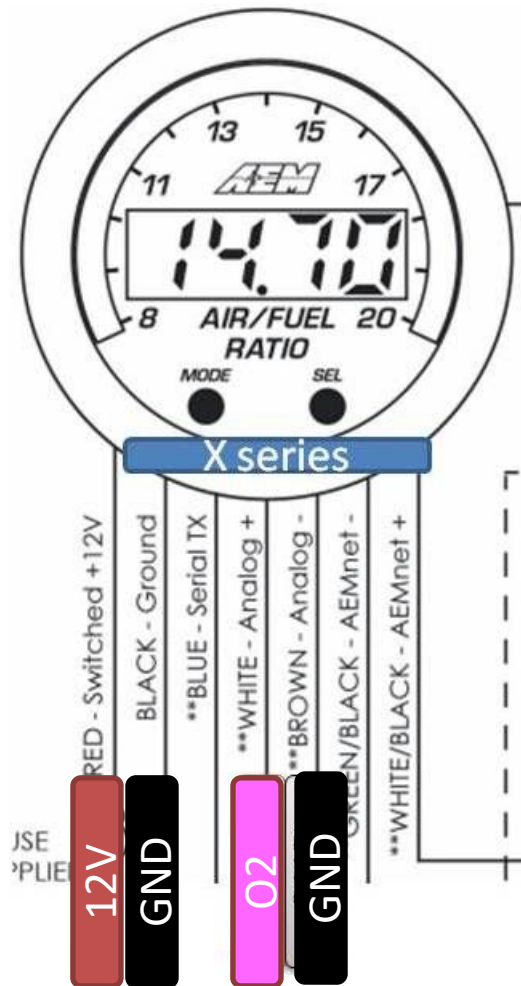
Bluetooth use (if available)

Power on the ECU

In the android device go to the bluetooth section, search and connect to the device "ProyectECU", the pin is: 1111

On the Android device go to the Play Store and search for "RealDash"

Install realdash APP

Once installed you have to open realdash and configure in your panel, Connections "ADD", Source "Speeduino", Type "Bluetooth", Bluetooth "ProyectECU", Settings "Serial 3" and DONE.

We can now enjoy data in Dash.

RealDash
Napiko · Autos y vehículos ★★★★☆ 2.993 ▲
🗂 Todos

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⊘ Esta app está disponible para todos tus dispositivos
Instalada

REALDASH
WE DO WHATEVER WE LIKE

La companion app para vehículos perfecta para viajes por carretera, calle y pista de carreras. O simplemente para divertirte con tu simulador de carreras favorito.

Available Video Tutorial:
ProjectECU.com/downloads

Tutorial how to connect to ProjectECU Bluetooth from cell/tablet

ProjectECU

Program
USB

visualize data
Bluetooth