

# DBW1

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## ProjectECU

### Description

This module provides the functionality you need to run almost any DBW (Drive by wire) electronic throttle body with ProjectECU ECUs (and other brand ECUs).

Its main function is to pass the movement of the pedal to the electronic accelerator and nothing else. Super fast response, and simple operation without complications.

*Congratulations! This module is designed to be very easy to connect, very simple, very easy to use and calibrate!!!*

*Wires up in minutes, uses only a few signals, works with all types of throttles and pedals.*

*It is designed for the fastest pedal-to-body response for sporty use.*

The throttle body should have a single motor (which will have a motor + and motor - terminal on its connector) and TPS (throttle position) tracks.

As stated above, there should probably be at least 4 terminals on a supported throttle body. They are Motor +, Motor -, DBWposition, 5v and signal ground.

The Pedal must be capable of sending a 5v proportional signal. That said, a compatible pedal must at least have 3 TPS signals, 5v and Ground signal. But must have 6 terminals or more. (be very careful on pedal pinout).



## Diagram

DBW1

SW2	5V	Pedal in		DBW in	TPS ecu	AC	SW1
A8	A7	A6	A5	A4	A3	A2	A1
Motor +	5V	TX	RX	GND			GND
B8	B7	B6	B5	B4	B3	B2	B1
Motor -							12V
C8	C7	C6	C5	C4	C3	C2	C1

To USB

The connector has 24 wires, of which only a few have function, the other wires can be removed if desired.

### The function of each cable is written below:

**12V.-** power supply for DBW1 (normally to switch)

**GND.-** ground, the ground is common for sensors, and other devices

**Motor+, Motor- .-** Outputs are connected to the DBW motor, when powering motor+ with 12v direct and motor- with GND the accelerator must move completely

**SW1, SW2.-** Outputs for SAFETY SWITCH OR RELAY, sw1 and sw2 must be interconnected for the DBW motor to work, if the DBW motor is opened it goes to the off position (used to connect an emergency switch). The switch to connect must be normally closed (NC)

**5V.-** Reference output 5V to connect to Pedal, and to Electronic Throat

**Pedal in.- Pedal signal** input (variable 0 to 5V)

**DBW in.-** Throat signal input electronics (variable 0 to 5V)

**TPS ecu.-** Signal output to send to tps ecu (you can also use pedal in signal)

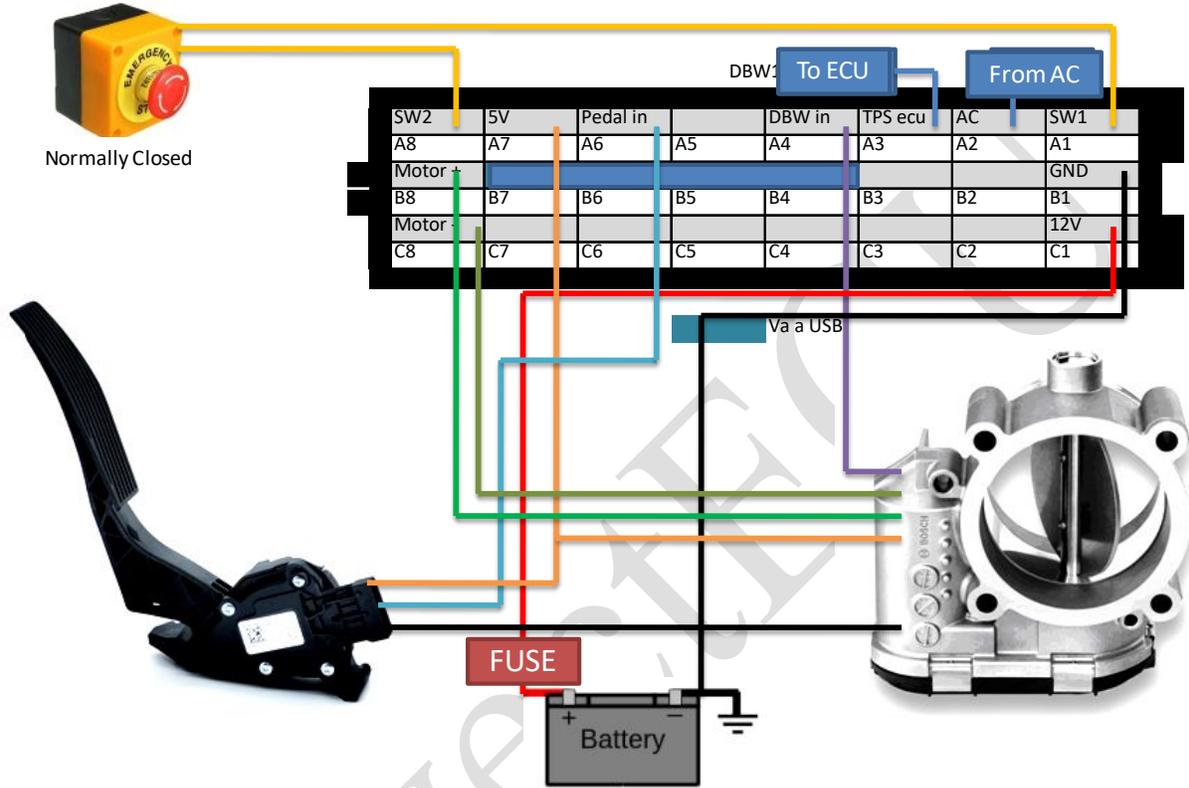
**AC.-** AC system activation input (used to compensate for AC input)

**USB CABLE. -** Used to connect to the Laptop and be able to configure and perform calibrations

## Connections

DBW1  
Fast Guide

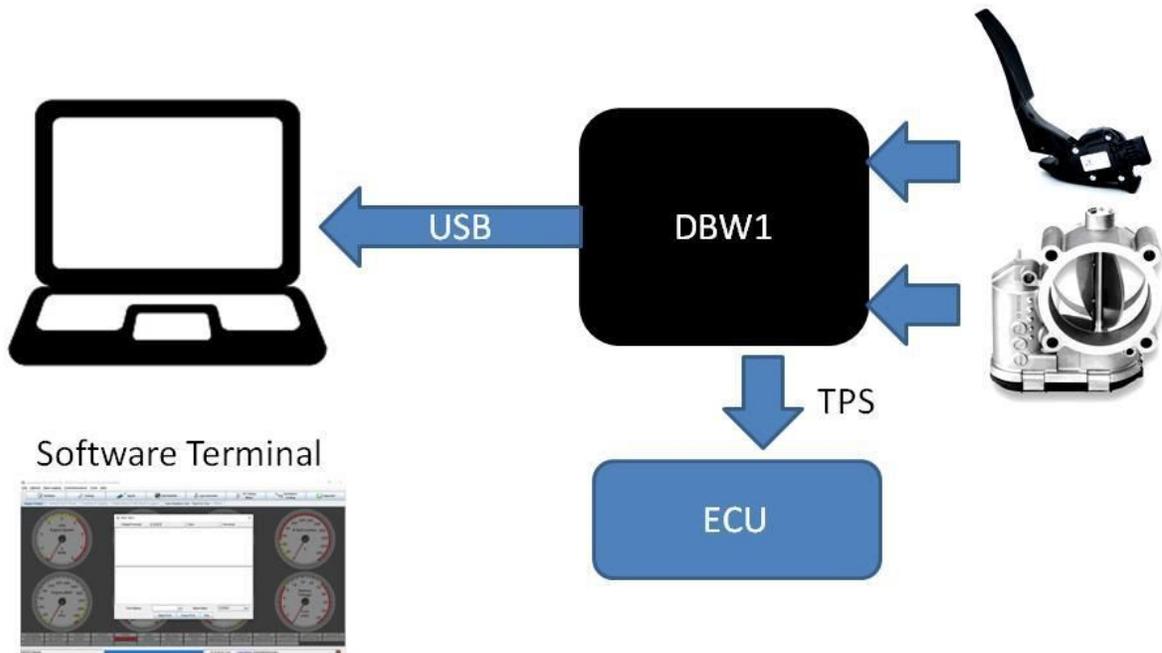
## Typical Connections



It is very important to Wire an Emergency Switch!!

Proyecto

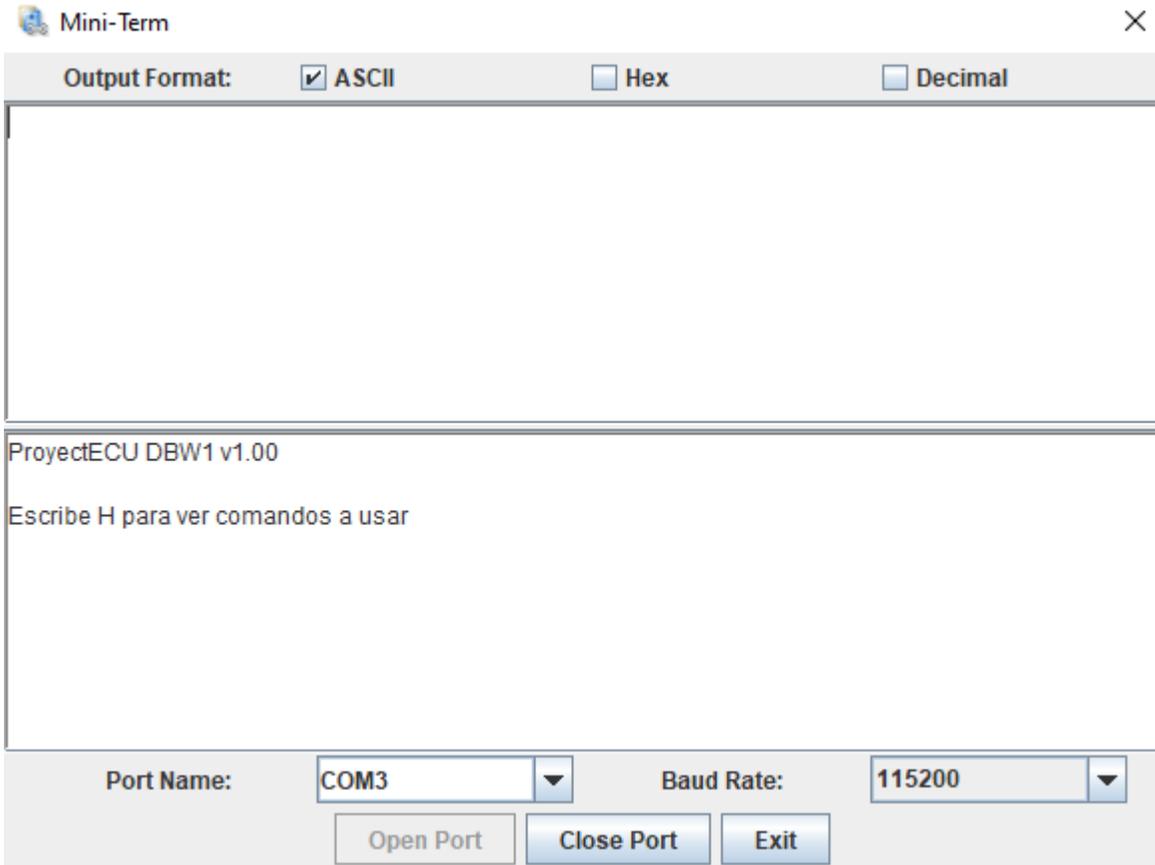
## Programming / Calibration



The module has a USB cable, we must connect it to the laptop and install the CH340 driver (download from Page [ProjectECU.com/downloads](http://ProjectECU.com/downloads)), then a Terminal software must be used, the recommendation is to use TunerStudio with its MiniTerminal as indicates in the video tutorial (How to connect to the ProjectECU Modules using Tunerstudio). You can see the video at: [ProjectECU.com/descargas](http://ProjectECU.com/descargas)

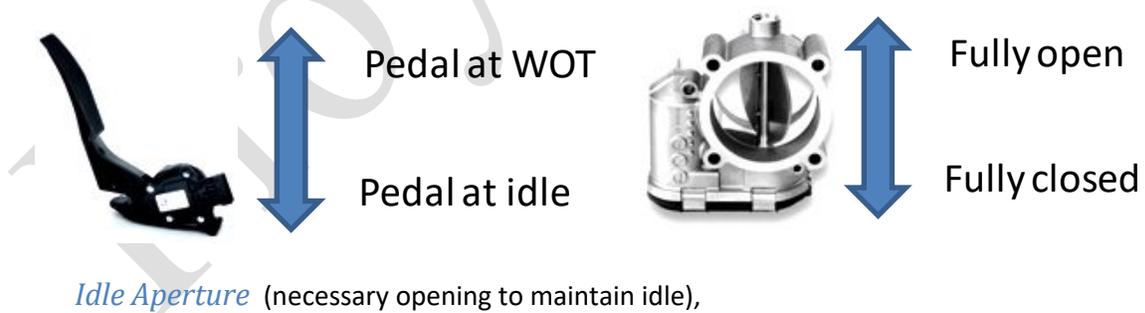


- 1.- We must select the COM port of the module (Windows assigns it automatically) we choose it from the PORT NAME menu, we choose BAUDRATE 115200.
- 2.- We click on OPEN PORT (if not connect to the first please disconnect moduo, close Tunerstudio and repeat the process), and in the window we should see a Welcome saying that we write H to see commands to use:



**3.-** We write in command H (uppercase) and hit Send. It will send us a menu of options which we will give a brief explanation:

**Write V to see parameters.-** We can see the current calibration values,



*Idle Aperture* (necessary opening to maintain idle),

*AC Aperture* (extra opening to maintain idle),

*PIN Value AC* (pin to detect AC system on/off, 0 is function off, 1 is function on).

**Write C to calibrate Electronic body.-** The electronic body will close, and after a second it will open, and it will show the auto-calibration values. (If it want to move in the opposite direction, please switch motor+ and motor- cables)

**Write A to calibrate Pedal at rest.**- It takes the value of the pedal at rest, therefore we must release the pedal and then write command A, with this it will show the new calibration value (it should show a small value between 0 and 200)

**Write B to calibrate Pedal fully depressed.**- It takes the value of pedal fully depressed, therefore we must fully depress the pedal and then write command B , with this it will show the new calibration value (it must show a large value between 800 and 1000)

**Write I to program minimum opening Idle.**- This value indicates how long the electronic body will remain open to prevent the engine from turning off, 1000 means fully open, 0 is fully closed, so we should write values between 100 and 200 (10% to 20%)

**ACSI to activate extra opening pin with AC.**- Activate pin for AC detection and add extra opening.

**WriteACNO to disable opening pin extra with AC.**- Disables the pin function for AC detection.

**Write AC to program extra opening with AC.**- This value is similar to Idle, 0 is without extra opening, 1000 is fully open, we must use values between 100 to 200 (10% to 20%).

**Write S to save calibrations.**- Save the parameters and calibrations on disk (it is not erased when removing the battery from the vehicle).

*For use only on the track, its use on the street is not allowed.*

*Its installation must be carried out by a SPECIALIZED WORKSHOP.*

**12/April/2022**