

1 – The RPM ECU Coil adapter



It may occur that RPM signal, either sampled from the coil or from the ECU, is not correctly sampled from AIM logger: RPM signal can be very unstable or the value shown does not correspond to the real one.

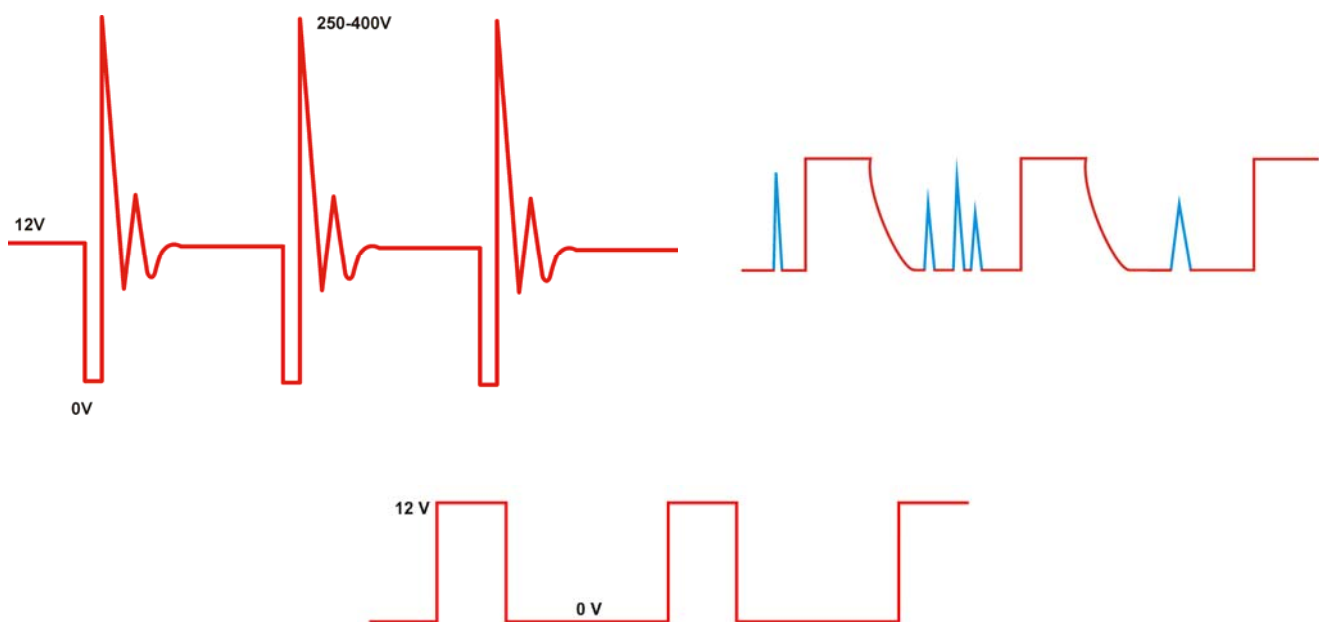
The main causes of this problem are electrical interferences that causes noise peaks or a non perfect square waveform of RPM signal.

“RPM ECU-Coil adapter” is a double purpose filter that allows the user to sample RPM signal both from the coil and form the ECU and it:

- cleans “RPM ECU” signal from undesired noise peaks and squares the RPM signal waveform;
- squares “RPM Coil” signal waveform.

The figure below shows three examples of RPM signal:

- RPM signal out coming from the coil: top left;
- RPM-ECU signal noisy (bluepeaks) and waveform not square: top right;
- RPM signal (sampled from the ECU or from the coil) filtered through RPM coi-ECU adapter: bottom.

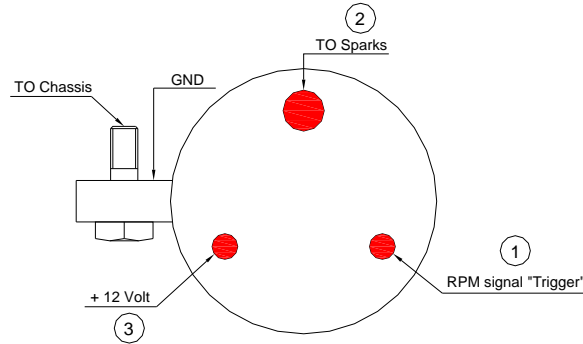


1.1 – Sampling RPM signal from the coil

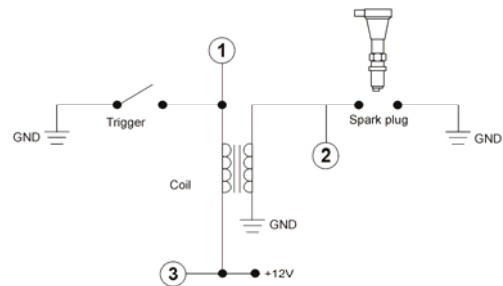
The coil, shown here below, is normally made up of a black cylinder with 3 cables:

- one is connected to the spark plug (2);
- one is connected to the battery positive pole (3);
- the last one (1) represents the **RPM signal**.

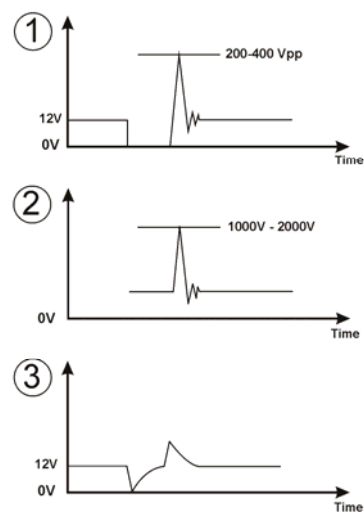
Moreover the coil is normally put to ground with the vehicle chassis.



The image here on the right shows the coil electrical scheme.



The image here on the right shows the output voltage measured in points 1, 2 e 3.
 The adaptor **white** cable, labelled "RPM coil 150-400V" is to be connected to the RPM trigger wiring, labelled "1" in the image top of this page.



1.2 – Installation notes

Follow carefully these instructions to correctly sample RPM signal from the coil:

- connect the interface white cable, labelled “**RPM COIL 150-400 V**”, to RPM channel out coming from the coil (labelled “RPM signal Trigger” in the figure top of the previous page);
- connect interface blue cable, labelled “RPM form”, to “RPM form 8-50Volt square wave” input of the logger;
- connect interface red cable, labelled “V battery”, to the battery positive pole. It is suggested to connect the red cable downstream the car/bike master switch;
- connect the interface black cable, labelled, “GND”, to logger GND pin (refer to the logger pinout for further information).

1.3 – How to sample RPM signal out coming from the ECU

To clean and square the ECU-RPM waveform follow these instructions:

- connect the blue cable labelled “RPM ECU 4-50V” to RPM channel out coming from the ECU;
- connect the adaptor blue cable labelled “RPM form” to the logger “RPM form 8-50 Volt square wave” output;
- connect the interface red cable, labelled “V battery”, to the battery positive pole. It is suggested to connect the red cable downstream the car/bike master switch;
- connect the interface black cable, labelled “GND”, to the logger GND pin (refer to the logger pinout for further information).

1.4 – TVS –Transient Voltage Suppressor

If the RPM adaptor is labelled **TVS** it means it is equipped with a “**Transient Voltage Suppressor**”. This electronic components filters the incoming power input (**RED** cable, labelled “+ V battery”) from high voltage undesired peaks (as shown in the last figure bottom on the previous page) to save RPM filter integrity. It allows to power RPM filter through the coil “12 V” cable (top figure of the previous page). It is suggested to connect the red cable downstream the car/bike master switch.

1.5 – Codice prodotto

RPM ECU-Coil adapter part number is:

X05ADRPMM30