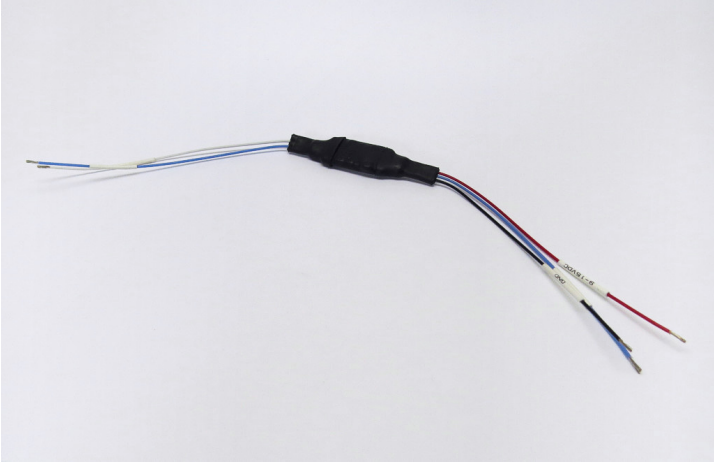
AiM Infotech

RPM-ECU Coil adapter

Release 1.03



This datasheet explains how to connect AiM RPM-ECU[1] Coil adapter and sample RPM signal. The adaptor fits ECU without CAN output.

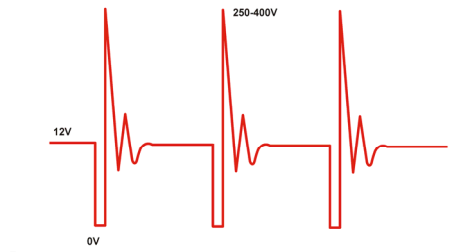
This product **part number** is: **X05ADRPMM30**

1 Introduction

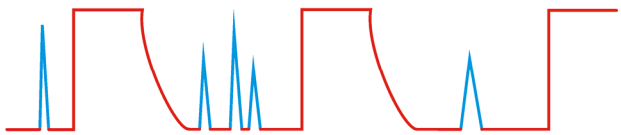
AiM RPM ECU Coil adapter is a filter that allows to sample RPM signal from both the coil and the vehicle ECU, avoiding possible signal instabilities or wrong sampling due to electrical interferences – that create tension peaks – or to an RPM signal whose square wave is not perfect. AiM adaptor cleans the signal from undesired tension peaks and squares the signal wave form.

1.1 RPM signal

RPM signal can be sampled from the coil or from the vehicle ECU. Images here below show the signal coming from the coil ("**A**"), the signal noisy with a not squared waveform ("**B**") and the signal with a squared waveform thanks to AiM adapter ("**C**").



A



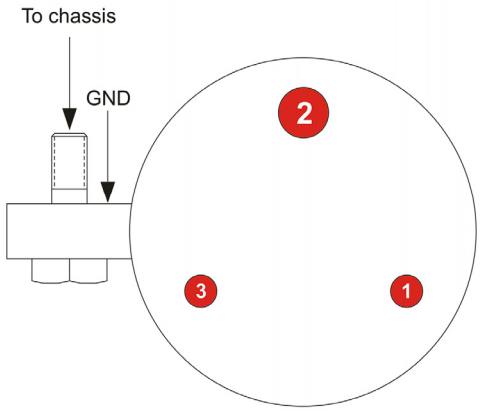
B

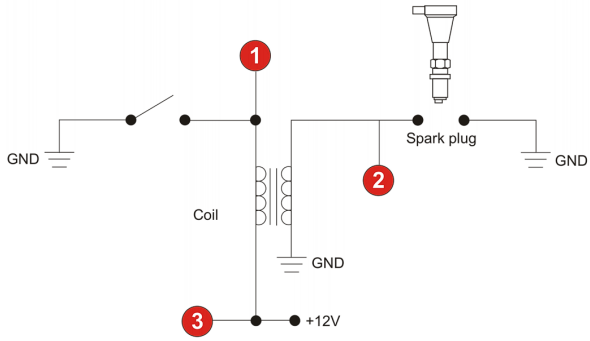
C

[1] Engine Control Unit

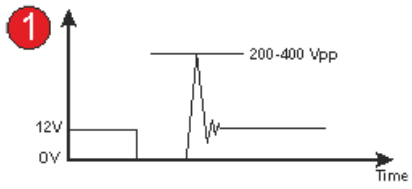
1.2
The coil

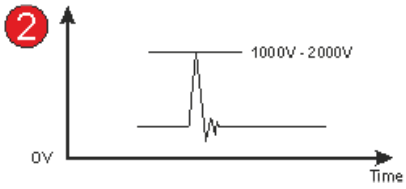
The coil shown here below on the left is a black cylinder with three out coming cables: RPM trigger (**1**), spark plug connection (**2**) and battery positive pole connection on the right (**3**). The coil is usually put to ground with the vehicle chassis as indicated in the image on the left. The image on the right shows the electrical scheme the coil is in.

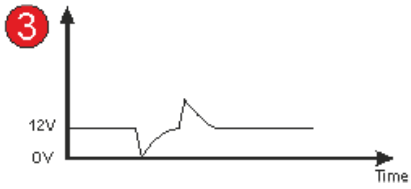




The graphs here below show the voltage output measured on the three points indicated above.







2
Installing AiM RPM ECU Coil adapter

As said before AiM RPM ECU Coil adapter allows to sample RPM signal from both the coil and the vehicle ECU. Instructions here following explain how to make the two installations.

2.1
Installation to sample the signal from the coil

To sample RPM signal from the coil install AiM adaptor following these instructions:

- connect the white cable labelled RPM COIL 150-400V" to the coil RPM (**1**) output;
- connect the blue cable labelled "RPM form" to "RPM form 8-50 volt square wave" input of the logger;
- connect the red cable labelled "V battery" to the battery positive pole (**3**);
- connect the black cable labelled "GND" to the logger GND.

Please refer to the logger pinout to know the pins to use.

Warning: do not connect anything to the coil spark plug connection (**2**) or you will damage your AiM logger

Here below is connection scheme.

2.2
Installation to sample the signal from the ECU

To sample the RPM signal from the ECU install AiM adapter following these instructions:

- connect the blue cable labelled “RPM ECU 4-50V” to ECU RPM output;
- connect the blue cable labelled “RPM form” to “RPM form 8-50 volt square wave” input of the logger;
- connect the red cable labelled “V battery” to the battery positive pole (**3**); we suggest to connect it downstream the vehicle master switch;
- connect the black cable labelled “GND” to the logger GND pin.

Please refer to the logger pinout to know the pins to use.

Warning: do not connect anything to the coil spark plug connection (**2**) or you will damage your AiM logger

Here below is connection scheme.