

RPM + speed connections for datalogger

Posted by Simon - 28 Feb 2010 07:51

Hi all,

I am a student automotive engineering working on my thesis about the suspension of the 944 (type2/late).

For this I need to use a datalogger system (AIM Evo4) to log suspension movement but also RPM and speed.

I was wondering if anybody could point me in a direction for how to measure those two?

On the Trackvision gallery (www.trackvision.net/gallery.php) there is a movie from Jon Ariano who uses an AIM logger which shows RPM and speed.

Does anybody have any experience with getting RPM and speed hooked-up to an AIM datalogger?

Can I use the gearbox/tacho signal or should I just use a wheelspeed signal from the ABS?

Hope you can help me.

Best regards,

Simon

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Re:RPM + speed connections for datalogger

Posted by 944DR - 26 Apr 2010 00:47

Maxcar:

The issue that I see in regards to tapping directly into the Hall Effect device's output signal is one of impedance matching. From what I remember about Hall Effect devices are generally buffered by high impedance Operational Amplifier configured in a differential mode. This is an analog circuit that is detecting milli or micro volts differences (or milli or micro amp current differences). If you shunt a low impedance device (such as a digital RPM input device) around the Hall Effect device's output, there is a good possibility that the signal will be distorted (e.g. electrical noise).

If you look at the Porsche factory schematic you will notice a shielded wire running from the Hall Effect device to the ECU. This is a strong indication that Porsche wanted to shield a low voltage/current circuit from electrical noise. This is also generally done on high impedance (analog) circuits because of their susceptibility to injection of electrical noise.

The advantage of making the connection described in #3 above, is the analog Hall Effect signal has been buffered and is in essence a relatively low impedance digital signal that would not be effected by you tapping in a RPM digital input device.

Let me know if that makes sense or not.

Dale

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Re:RPM + speed connections for datalogger

Posted by 944DR - 26 Apr 2010 01:43

Maxcar:

After giving your question a second consideration, you could contact your vendor to ask about the input impedance of their Tach input. If they say that it is a high impedance (megaohms), then you could attempt to connect to the Hall Effect device. Just be aware that you may cause signal degradation to the ECU or the tachometer.

Dale

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Re:RPM + speed connections for datalogger

Posted by maxcar - 27 Apr 2010 22:39

Ok, now I see the problem. It doesn't seem like a very good idea to clip onto a shielded wire. I'm having some trouble interpreting the diagram, so if you could help me it would be great. I can't see the match of the wire colours between the hall sender on page 97-217 A46 and page 97-207 M16. Is it really the same sender?

I'm now more leaning towards using the tachometer signal wire behind the instrument cluster. As far as I can see, it should be the Blue/Red wire on page 97-207 F14, right? What does the 0.5 before BL/RE mean, by the way?

Thanks a lot for the help.

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Re: RPM + speed connections for datalogger

Posted by AndrewLang - 15 Dec 2012 02:04

Hi Guys,

We spent a lot of time install an AIM MXL into our 944 and redoing all of our wiring. I tried to put some notes down in detail in our blog since I couldn't find much helpful information in the forums. We spent a lot of time going through the wiring diagrams to get this all working right. AIM Tech support is also a great resource.

www.langracing.com/installing-aim-mxl-pi...-other-motronic-ecu/

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