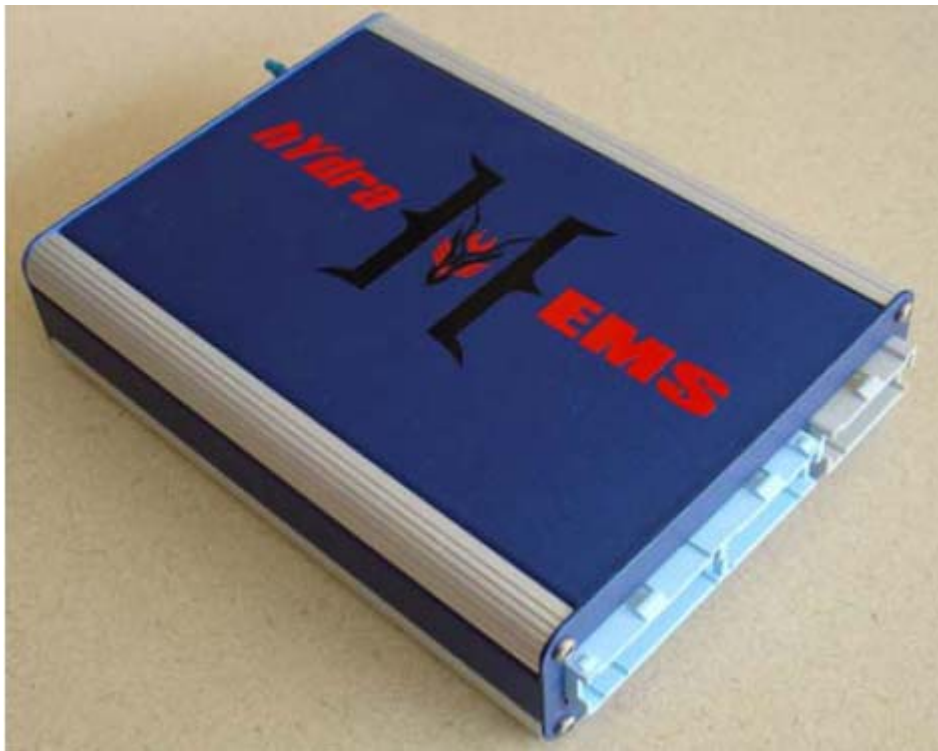


HYDRA EMS NEMESIS 2.5–2.6 ECUs connections



INTRODUCTION

AIM has developed special applications for many of the most popular ECUs: by special applications we mean user-friendly systems which allow to easily connect your ECU to our high tech data loggers: user needs only to install harness between the **logger** and the ECU.

Once connected, the logger displays (and/or records, depending on the logger and on the ECU data stream and configuration) values like RPM, engine load, throttle position (TPS), air and water temperatures, battery voltage, speed, gear, lambda value (air/fuel ratio) analog channels...

All AIM loggers include – free of charge – **Race Studio 2** software, a powerful tool to configure the system and analyze recorded data on your PC.

Warning: once the ECU is connected to the logger, it is necessary to set it in the logger configuration in Race Studio 2 software:

**Select Manufacturer “HYDRA_EMS ” Model “Nemesis 2.5” or
Manufacturer “HYDRA_EMS” Model “Nemesis 2.6”.**

Refer to Race Studio Configuration user manual for further information concerning the loggers configuration.

Warning: it is always suggested to verify if the ECU needs any software/firmware setting or upgrade to export data to an external logger.

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Chapter 1 – Serial communication setup

HYDRA EMS NEMESIS 2.5 and 2.6 have a serial communication protocol (RS232) and are equipped with a female DB9 connector used to communicate parameters to an external logger or to configure the ECU itself.

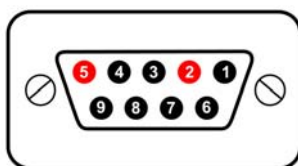
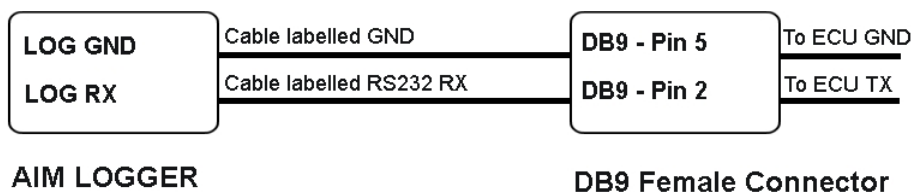
Chapter 2 – Connection to AIM data loggers

Hydra ECU can be connected to AIM loggers as explained here following.

2.1 – Hydra EMS Nemesis 2.5 connection to AIM data loggers

To connect AIM loggers to Hydra EMS 2.5, connect the cables as follows:

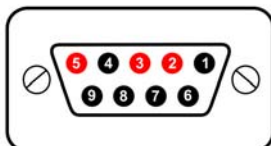
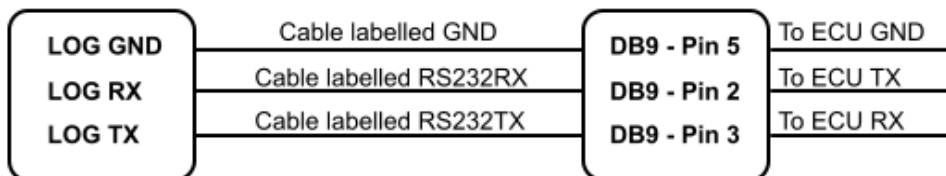
- AIM cable labelled “RS232RX” to pin 2 of the DB9 female connector
- AIM cable labelled “GND” to pin 5 of the DB9 female connector



2.2 – HYDRA EMS Nemesis 2.6 connection to AIM data loggers

To connect AIM loggers to HYDRA EMS 2.6, connect the cables as follows:

- AIM cable labelled “RS232RX” to pin 2 of the DB9 female connector
- AIM cable labelled “RS232TX” to pin 3 of the DB9 female connector
- AIM cable labelled “GND” to pin 5 of the DB9 female connector



Chapter 3 – Hydra EMS Nemesis Communication protocol

Channels received by AIM loggers connected to Hydra EMS NEMESIS 2.5/2.6 are:

ID	Channel Name	Function
ECU_1	HYDRA_RPM	RPM
ECU_2	HYDRA_WHEELSPEED	Wheel Speed
ECU_3	HYDRA_OILPRESS	Oil Pressure
ECU_4	HYDRA_OILTEMP	Oil Temperature
ECU_5	HYDRA_WATERTEMP	Water Temperature
ECU_6	HYDRA_FUELPRESS	Fuel pressure
ECU_7	HYDRA_BATTVOLT	Battery voltage
ECU_8	HYDRA_TPS	Throttle position sensor
ECU_9	HYDRA_MAP	Manifold air pressure
ECU_10	HYDRA_AIRTEMP	Air temperature
ECU_11	HYDRA_EXHT_TEMP	Exhausted Temperature
ECU_12	HYDRA_LAMBDA	Lambda
ECU_13	HYDRA_FUELTEMP	Fuel temperature
ECU_14	HYDRA_GEAR	Gear
ECU_15	HYDRA_ERRORS	Errors