MS4 Sport ECU

Racing Data Power

INTRODUCTION

AIM has developed special applications for many of the most common ECUs: by special applications we mean user-friendly systems which allow to easily connect your ECU to our hi-tech data loggers: user need 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) 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.

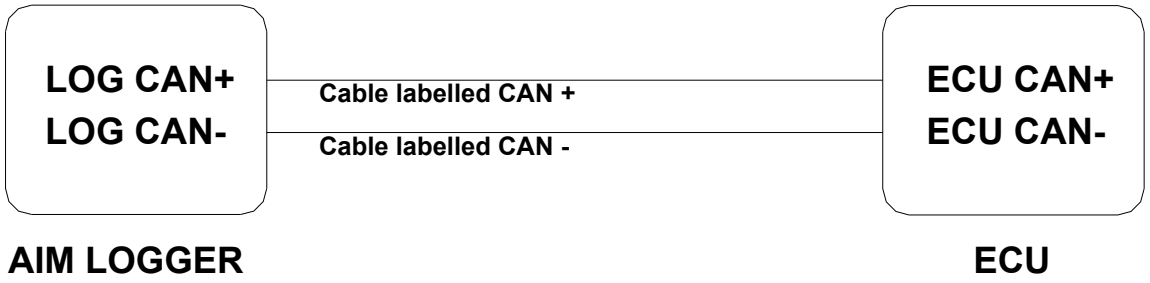
Warning: once the ECU is connected to the logger, it is necessary to set it in the logger configuration in Race Studio 2 software.
Select Manufacturer "BOSCH" and Model "MS4_SPORT".
Refer to Race Studio Configuration user manual for further information concerning the loggers configuration.

Warning: it is strongly recommended to always verify whether the ECU needs specific software settings to export data.

Chapter 1 – Can communication setup

The ECU has a CAN communication protocol used to communicate parameters to a datalogger or to configure the ECU itself.

The image here below shows the standard CAN communication to connect the ECU to AIM loggers:



Chapter 2 – Connection with AIM loggers

Due to the fact that ECU model has two different CAN outputs, it is necessary to test the two connections to find out the one that is enabled to work properly with AIM logger. The table here below shows two couples of pins: 60 (CAN+) / 58 (CAN-) and 79 (CAN+) / 77 (CAN-).

PIN	FUNCTION	COMMENTS
60/58	CAN+/CAN-	CAN1
79/77	CAN+/CAN-	CAN2

WARNING: never connect pins belonging to different couples – like pin 60 with pin 77 for example.

Chapter 3 – Bosch MS4 Sport ECU Communication protocol

Channels received by AIM loggers connected to Bosch MS4 Sport ECU are:

ID	CHANNEL NAME	FUNCTION
ECU_1	MS4_RPM	RPM
ECU_2	MS4_SPEED	SPEED
ECU_3	MS4_TPS	Throttle position sensor
ECU_4	MS4_GEAR	Gear
ECU_5	MS4_WH_SPD_FL	Front Left wheel speed
ECU_6	MS4_WH_SPD_FR	Front Right wheel speed
ECU_7	MS4_WH_SPD_RL	Rear Left wheel speed
ECU_8	MS4_WH_SPD_RR	Rear Right wheel speed
ECU_9	MS4_LAM1	Lambda1
ECU_10	MS4_LAM2	Lambda 2
ECU_11	MS4_OIL_P	Oil pressure
ECU_12	MS4_ATM_P	Atmospheric pressure
ECU_13	MS4_FUEL_P	Fuel pressure
ECU_14	MS4_CRANK_P	Crank Pressure
ECU_15	MS4_P1	
ECU_16	MS4_OIL_T	Oil temperature
ECU_17	MS4_ATM_T	Atmospheric Temperature
ECU_18	MS4_FUEL_T	Fuel Temperature
ECU_19	MS4_ECT	Engine cooling temperature
ECU_20	MS4_EX_T1	Exhaust temperature 1
ECU_21	MS4_EX_T2	Exhaust temperature 2
ECU_22	MS4_LAMBDA_T1	Lambda Temperature 1
ECU_23	MS4_LAMBDA_T2	Lambda Temperature2
ECU_24	MS4_BATTVOLT	Battery Voltage
ECU_25	MS4_MIL	Malfunction indicator light
ECU_26	MS4_OIL_SW	Oil switch