MS4 ECU for Porsche 997

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_997".
Refer to Race Studio Configuration user manual for further information concerning the loggers configuration.

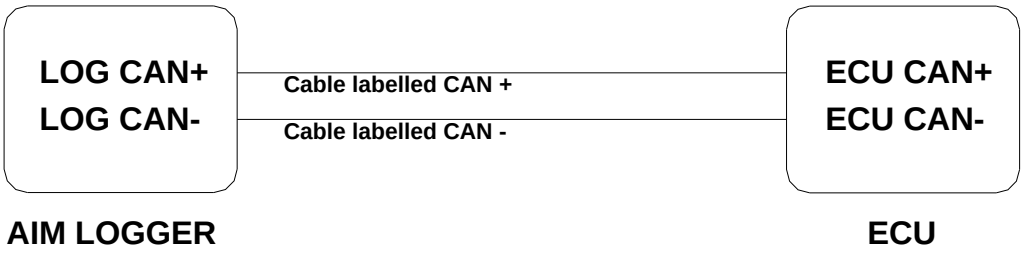
1 – Car models

MS4 ECU can be used on the following car model:

- Porsche 997

2 – Can communication setup

The ECU has a CAN communication protocol used to communicate parameters to a data logger or to configure the ECU itself.
The image here below shows the standard CAN communication to connect the ECU to AIM loggers:



3 – Connection to AIM loggers

Due to the fact that ECU model has to CAN outputs, it is necessary to try 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.

4 – Bosch MS4 ECU Communication protocol

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

ID	CHANNEL NAME	FUNCTION
ECU_1	BOSCH_RPM	RPM
ECU_2	BOSCH_SPEED1	Speed 1
ECU_3	BOSCH_SPEED2	Speed 2
ECU_4	BOSCH_OIL_PRESS	Oil pressure
ECU_5	BOSCH_FUEL_PRESS	Fuel pressure
ECU_6	BOSCH_ATM_PRESS	Air temperature
ECU_7	BOSCH_FUEL_TEMP	Fuel temperature
ECU_8	BOSCH_OIL_TEMP	Oil temperature
ECU_9	BOSCH_ENGINE_TEMP	Engine temperature
ECU_10	BOSCH_AIR_TEMP	Atmospheric air temperature
ECU_11	BOSCH_THROTT_ANG	Throttle angle
ECU_12	BOSCH_IGNIT_ANG	Ignition angle
ECU_13	BOSCH_AIR_CHARGE	Engine load
ECU_14	BOSCH_INJEC_TIME1	Injection time 1
ECU_15	BOSCH_INJEC_TIME2	Injection time 2
ECU_16	BOSCH_LAMBDA1	Lambda value 1
ECU_17	BOSCH_LAMBDA2	Lambda value 2
ECU_18	BOSCH_GEAR_POT_C	Gear potentiometer
ECU_19	BOSCH_GEAR_SHIFT_C	Speed limiter
ECU_20	BOSCH_FUEL_USED	Fuel consumption
ECU_21	BOSCH_FUEL_LAP	Fuel consumption per lap
ECU_22	BOSCH_GEAR	Engaged gear number
ECU_23	BOSCH_VBATT	Battery voltage
ECU_24	BOSCH_MAPPOS	Map position
ECU_25	BOSCH_PWAT	Water pressure
ECU_26	BOSCH_PCRANK	Crank pressure
ECU_27	BOSCH_PCLUTCH	Clutch pressure
ECU_28	BOSCH_SPEED_F_L	Front Left wheel speed
ECU_29	BOSCH_SPEED_F_R	Front right wheel speed
ECU_30	BOSCH_SPEED_R_L	Rear left wheel speed
ECU_31	BOSCH_SPEED_R_R	Rear right wheel speed
ECU_32	BOSCH_ACC_X	Horizontal acceleration
ECU_33	BOSCH_ACC_Y	Vertical acceleration
ECU_34	BOSCH_ACC_Z	Lateral acceleration
ECU_35	BOSCH_STEER	Steering angle
ECU_36	BOSCH_YAW	Gyroscope
ECU_37	BOSCH_GEARV	Gear voltage
ECU_38	BOSCH_BVMAX_REQV	Maximum battery voltage request alert
ECU_39	BOSCH_BVMAX	Maximum battery voltage alert
ECU_40	BOSCH_BSHIFTLAMP_ON	Shift lights on
ECU_41	BOSCH_BKNOKCK	Knocking sensor
ECU_42	BOSCH_BMIL	Max ignition limiter
ECU_43	BOSCH_BOIL	Oil alert
ECU_44	BOSCH_BLCA	
ECU_45	BOSCH_BASR	