Bosch ECUs

INTRODUCTION

AIM has developed special applications for many of the most common ECUs: by special applications we mean user-friendly systems which allow to connect quite easily your ECU to our hi-tech data loggers (**EVO3 Pro**/**Pista**, **MXL Strada**/**Pista**/ **Pro05**): users need only to install harness between – for example - **MXL** and the ECU unit.

Once connected, the **MXL** displays (and records, depending on the model) values like RPM, engine load, throttle position (TPS), air and water temperatures, battery voltage, speed, gear, lambda value (air/fuel ratio) and analog channels of your choice.

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

Please note: once your ECU is connected to the AIM Logger, you need to set in the logger configuration in **Race Studio 2** software.

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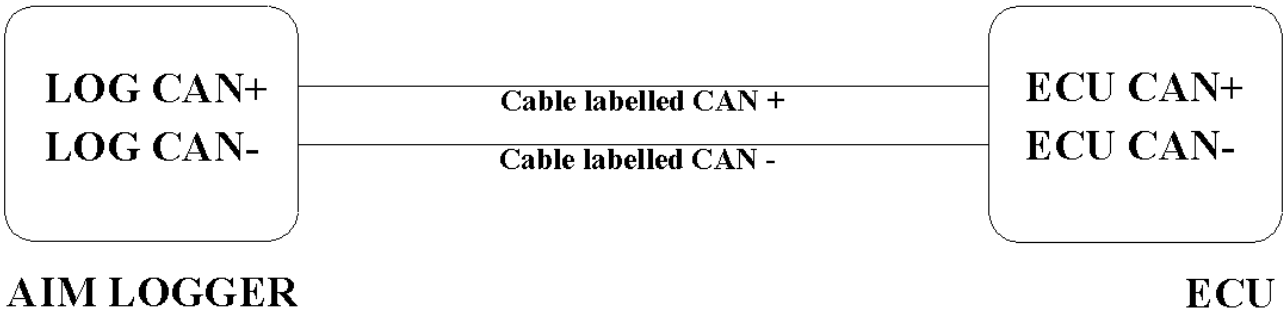
Chapter 1 – BOSCH – MS3

1.1 – CAN Communication Set-Up

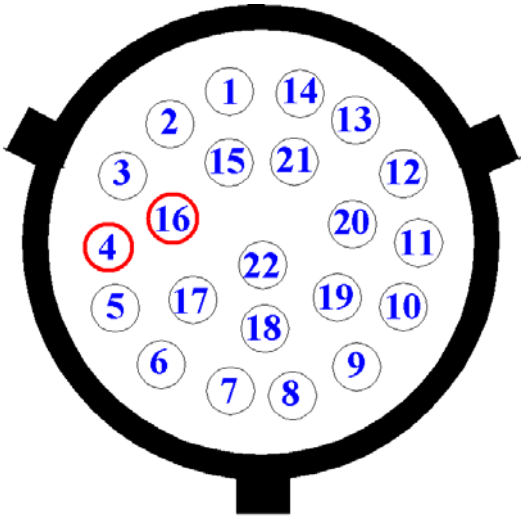
The ECU has a digital communication CAN Protocol used to communicate parameters to a data logger or to configure the ECU itself.

The following diagram shows the connections between the ECU and the logger:



This ECU can be installed on Porsche 911- 996 GT3 Cup and Porsche 911- 997 GT3 Cup cars.

Porsche 911-996 GT3 Cup (models from 2002 to 2005) and Porsche 997 GT3 Cup ECUs are equipped with a 22 pins Deutsch connector, shown below, with an external red ring. Connector Part Number is RP 3759339.



1.2 – Connection to AIM data loggers

To connect AIM logger to the ECU, please connect the cable labelled CAN+ with pin 4 of the ECU and the cable labelled CAN- with pin 16 of the ECU.

Pin	Function	Comments
4	CAN+	
16	CAN-	

Please note: To power AIM logger directly from the ECU use pin 15 of the ECU (+12V)..

1.3 – BOSCH – MS3 Protocol

Channels shown on AIM data loggers via CAN Protocol with Bosch are:

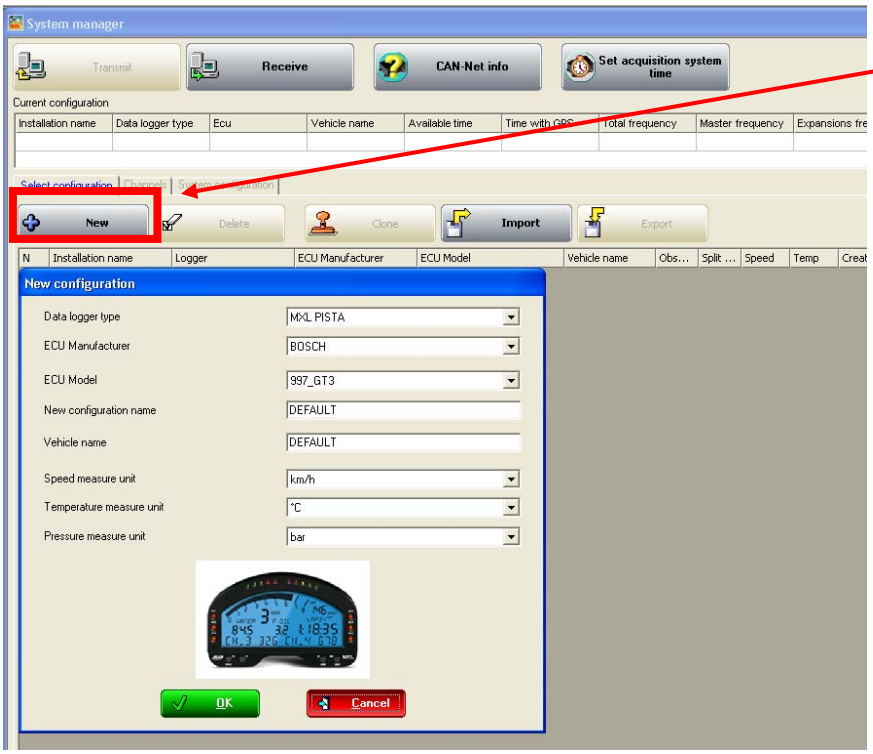
ECU_1	BOSCH_RPM	RPM VALUE
ECU_2	BOSCH_SPEED1	SPEED1
ECU_3	BOSCH_SPEED2	SPEED2
ECU_4	BOSCH_OIL_PRESS	OIL PRESSURE
ECU_5	BOSCH_FUEL_PRESS	FUEL PRESSURE
ECU_6	BOSCH_ATM _PRESS	AIR PRESSURE
ECU_7	BOSCH_FUEL_TEMP	FUEL TEMPERATURE
ECU_8	BOSCH_OIL_TEMP	OIL TEMPERATURE
ECU_9	BOSCH_ENGINE_TEMP	ENGINE TEMPERATURE
ECU_10	BOSCH_AIR_TEMP	AIR TEMPERATURE
ECU_11	BOSCH_THROTT_ANG	THROTTLE ANGLE
ECU_12	BOSCH_IGNIT_ANG	IGNITION ANGLE(FASE)
ECU_13	BOSCH_AIR_CHARGE	ENGINE LOAD
ECU_14	BOSCH_INJEC_TIME1	INJECTION TIME1
ECU_15	BOSCH_INJEC_TIME2	INJECTION TIME2
ECU_16	BOSCH_LAMBDA1	LAMBDA1
ECU_17	BOSCH_LAMBDA2	LAMBDA 2
ECU_18	BOSCH_LAM_CONTR1	LAMBDA CONTROLLER1
ECU_19	BOSCH_LAM_CONTR2	LAMBDA CONTROLLER2
ECU_20	BOSCH_FUEL_USED	USED FUEL
ECU_21	***NOT AVAILABLE***	
ECU_22	BOSCH_GEAR	GEAR NUMBER
ECU-23	BOSCH_VBATT	BATTERY VOLTAGE

1.4 – Configure your data logger with Race Studio 2 software

In order to ensure the communication between AIM data loggers and the ECU it is necessary to configure the logger following this procedure:

- run **Race Studio 2** software
- press AIM System manager button
- a choice panel appears: select the logger to connect to the ECU
- press “GO TO” button.

System manager window shown here below appears:

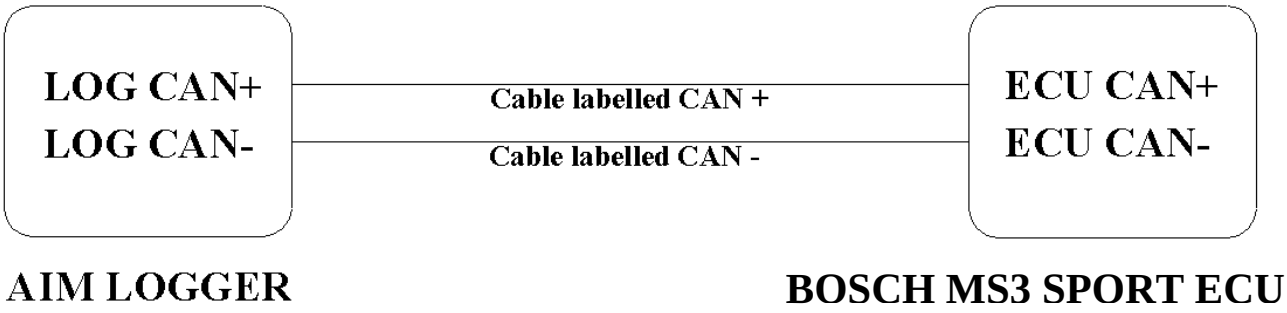


- Press “New button”
- New configuration window appears (shown here above); fill it in as follows
- Logger type: the logger to connect to the ECU
- ECU Manufacturer: **BOSCH**
- ECU Model: **MS3**
- Click on OK button

Chapter 2 – BOSCH – MS3 SPORT (pinout not available)

2.1 – CAN Communication Set-Up

The ECU has a digital communication CAN Protocol used to communicate parameters to a data logger or to configure the ECU itself.



2.2 – BOSCH – MS3 SPORT Protocol

Channels shown on AIM data loggers via CAN Protocol with Bosch are:

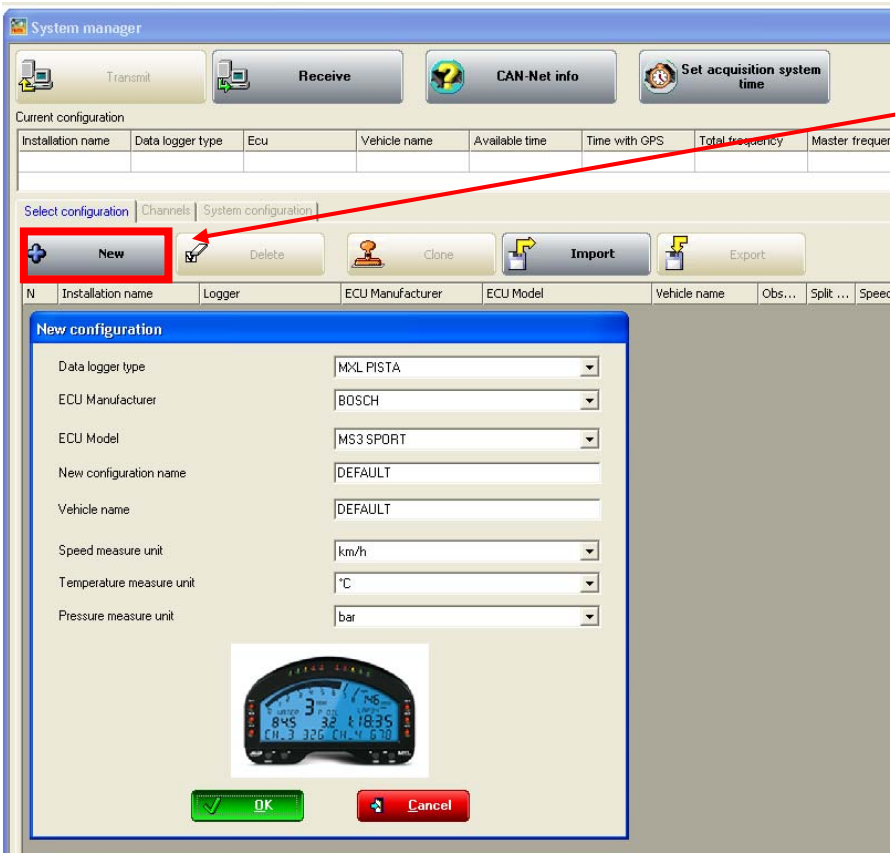
ECU_1	MS3_RPM	RPM VALUE
ECU_2	MS3_SPEED	SPEED VALUE
ECU_3	MS3_TPS	THROTTLE POSITION SENSOR
ECU_4	MS3_GEAR	GEAR NUMBER
ECU_5	MS3_WH_SPD_FL	WHEEL SPEED FRONT LEFT
ECU_6	MS3_WH_SPD_FR	WHEEL SPEED FRONT RIGHT
ECU_7	MS3_WH_SPD_RL	WHEEL SPEED REAR LEFT
ECU_8	MS3_WH_SPD_RR	WHEEL SPEED REAR RIGHT
ECU_9	MS3_LAM1	LAMBDA1
ECU_10	MS3_LAM2	LAMBDA2
ECU_11	MS3_OIL_P	OIL PRESSURE
ECU_12	MS3_ATM_P	AIR PRESSURE
ECU_13	MS3_FUEL_P	FUEL PRESSURE
ECU_14	MS3_CRANK_P	CRANK PRESSURE
ECU_15	MS3_OIL_T	OIL TEMPERATURE
ECU_16	MS3_ATM_T	AIR TEMPERATURE
ECU_17	MS3_FUEL_T	FUEL TEMPERATURE
ECU_18	MS3_ECT	WATER TEMPERATURE
ECU_19	MS3_EX-T1	EXHAUST GAS TEMPERATURE1
ECU_20	MS3_EX-T2	EXHAUST GAS TEMPERATURE2
ECU_21	MS3_BATTVOLT	BATTERY VOLTAGE

2.3 – Configure your data logger with Race Studio 2 software

In order to ensure the communication between AIM data loggers and the ECU it is necessary to configure the logger following this procedure:

- run **Race Studio 2** software
- press AIM System manager button
- a choice panel appears: select the logger to connect to the ECU
- press “GO TO” button.

System Manager window shown here below appears:

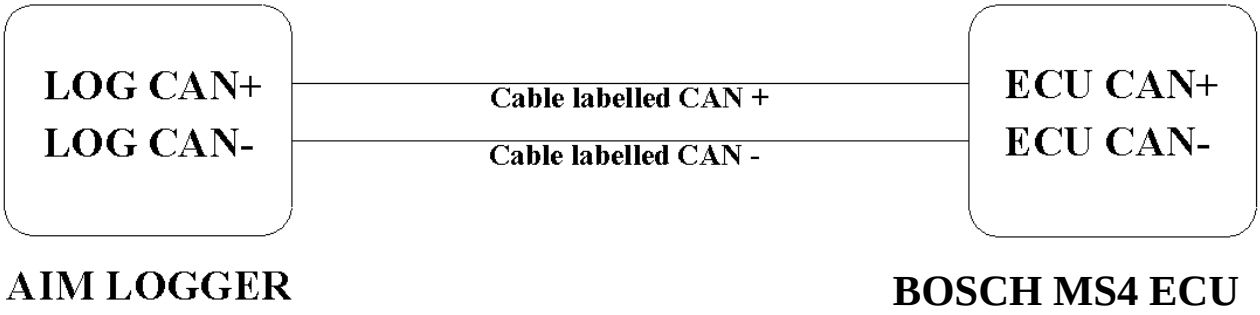


- Press “New button”
- New configuration window appears (shown here above); fill it in as follows
- Logger type: the logger to connect to the ECU
- ECU Manufacturer: **BOSCH**
- ECU Model: **MS3**
- Click on OK button

Chapter 3 – BOSCH - MS4

3.1 – CAN Communication Set-Up

The ECU has a digital communication CAN Protocol used to communicate parameters to a data logger or to configure the ECU itself.



3.2 – Connection to AIM data loggers

Due to the fact that this ECU model has two 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-)**. Connect cable labelled CAN+ with ECU CAN+ and cable labelled CAN- with ECU CAN -.

PIN	FUNCTION	COMMENTS
60 /58	CAN+/CAN-	CAN 1
79/77	CAN+/CAN-	CAN 2

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

3.3 – Bosch – MS4 Protocol

Channels shown on AIM data loggers via CAN Protocol with Bosch MS4 Protocol are:

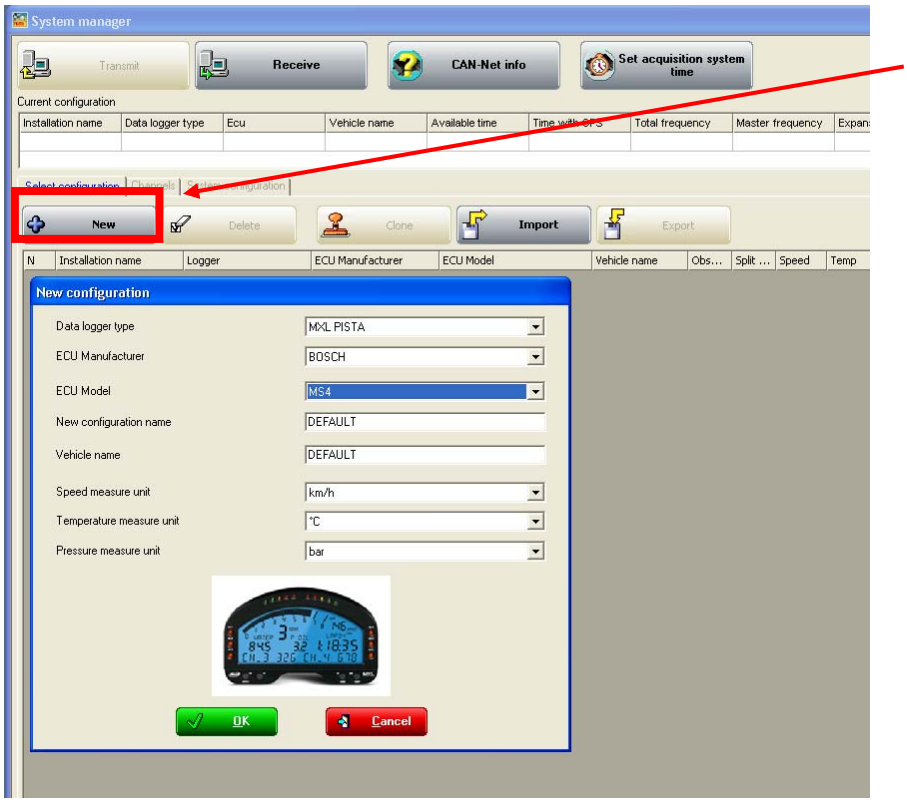
ECU_1	BOSCH_RPM	RPM VALUE
ECU_2	BOSCH_VEHICLE_SPEED	SPEED VEHICLE
ECU_3	BOSCH_TPS	THROTTLE POSITION SENSOR
ECU_4	BOSCH_IGNIT_ANG	IGNITION ANGLE
ECU_5	BOSCH_ENGINE_TEMP	ENGINE TEMPERATURE
ECU_6	BOSCH_OIL_TEMP	OIL TEMPERATURE
ECU_7	BOSCH_FUEL_TEMP	FUEL TEMPERATURE
ECU_8	BOSCH_AIR_TEMP	AIR TEMPERATURE
ECU_9	BOSCH_GEAR	GEAR NUMBER
ECU_10	BOSCH_GEAR_OIL_P	GEAR OIL TEMPERATURE
ECU_11	BOSCH_FUEL_PRESS	FUEL PRESSURE
ECU_12	BOSCH_WATER_PRESS	WATER PRESSURE
ECU_13	BOSCH_ATM_PRESS	AIR PRESSURE
ECU_14	BOSCH_OIL_PRESS	OIL PRESSURE
ECU_15	BOSCH_LAMBDA1	LAMBDA1
ECU_16	BOSCH_LAMBDA2	LAMBDA2
ECU_17	BOSCH_AFR1	AFR LAMBDA1
ECU_18	BOSCH_AFR2	AFR LAMBDA2
ECU_19	BOSCH_INJEC_TIME1	INJECTION TIME1
ECU_20	BOSCH_INJECT_TIME2	INJECTION TIME2
ECU_21	BOSCH_FUEL_USED	FUEL COMSUMPTION
ECU_22	BOSCH_ACC_X	ACCELEROMETER VALUE(X)
ECU_23	BOSCH_ACC_Y	ACCELEROMETER VALUE(Y)
ECU_24	BOSCH_ACC_Z	ACCELEROMETER VALUE(Z)
ECU_25	BOSCH_BREAK_P_R	BRAKE PRESSURE REAR
ECU_26	BOSCH_BREAK_P_F	BRAKE PRESSURE FRONT
ECU_27	BOSCH_EXHAUST_GAS	EXHAUST GAS TEMPERATURE
ECU_28	BOSCH_SPEED_F_L	SPEED FRONT LEFT
ECU_29	BOSCH_SPEED_F_R	SPEED FRONT RIGHT
ECU_30	BOSCH_SPEED_R_L	SPEED REAR LEFT
ECU_31	BOSCH_SPEED_R_R	SPEED REAR RIGHT

3.4 – Configure your data logger with Race Studio 2 software

In order to ensure the communication between AIM data loggers and the ECU it is necessary to configure the logger following this procedure:

- run **Race Studio 2** software
- press AIM System manager button
- a choice panel appears: select the logger to connect to the ECU
- press “GO TO” button.

System Manager window shown here below appears:

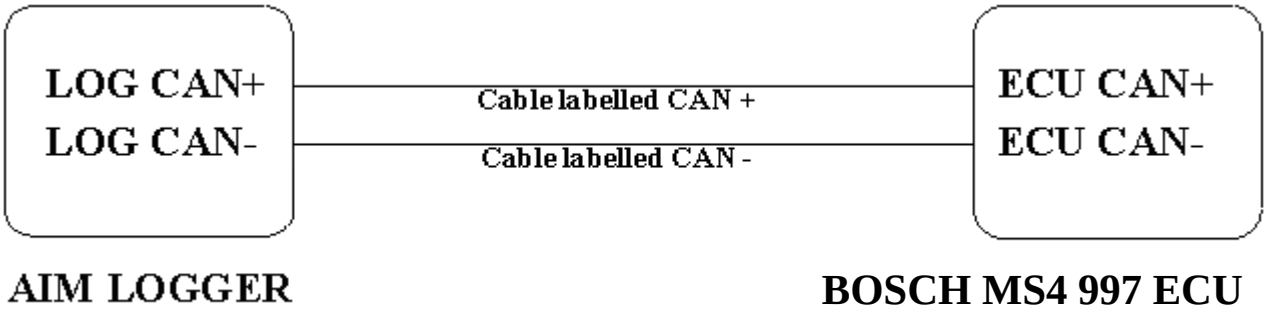


- Press “New button”
- New configuration window appears (shown here above); fill it in as follows
- Logger type: the logger to connect to the ECU
- ECU Manufacturer: **BOSCH**
- ECU Model: **MS4**
- Click on OK button

Chapter 4 – BOSCH–MS4 for Porsche 997

4.1 – CAN Communication Set-Up

The ECU has a digital communication CAN Protocol used to communicate parameters to the data logger. The data logger communicates with the ECU through a dedicate connector.



4.2 – Connection to AIM data loggers

Due to the fact that this ECU model has two 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-)**. Connect cable labelled CAN+ with ECU CAN+ and cable labelled CAN- with ECU CAN -.

PIN	FUNCTION	COMMENTS
60 /58	CAN+/CAN-	CAN 1
79/77	CAN+/CAN-	CAN 2

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

4.3 – BOSCH MS4 997 Protocol

Channels shown on AIM data loggers via CAN Protocol with Bosch Porsche 997 are:

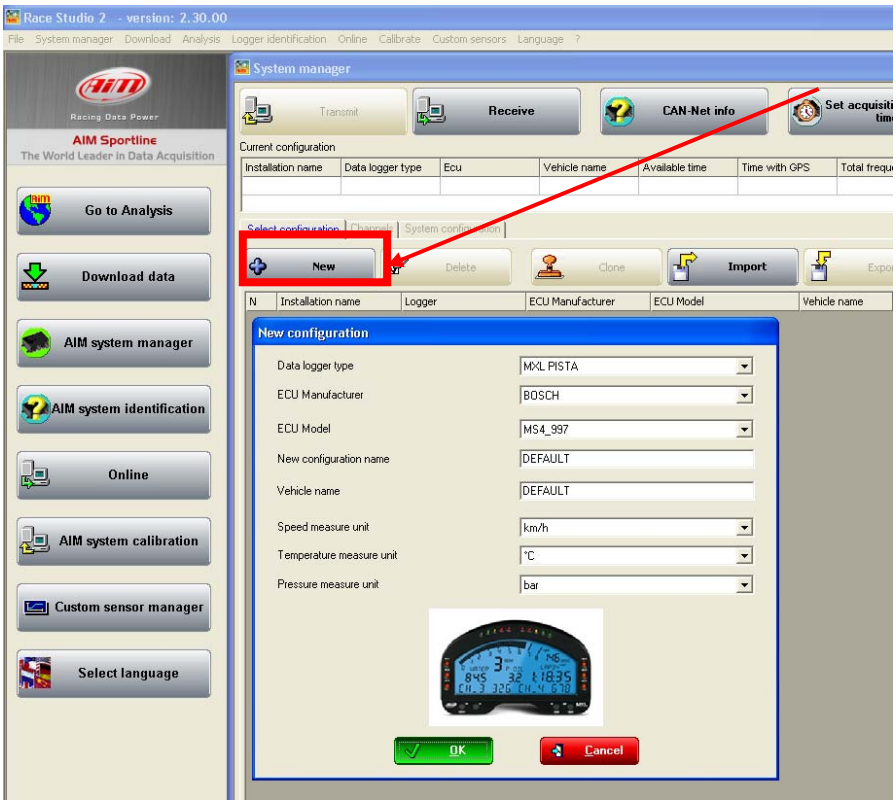
ECU_1	BOSCH_RPM	RPM VALUE
ECU_2	BOSCH_SPEED1	SPEED1
ECU_3	BOSCH_SPEED2	SPEED2
ECU_4	BOSCH_OIL_PRESS	OIL PRESSURE
ECU_5	BOSCH_FUEL_PRESS	FUEL PRESSURE
ECU_6	BOSCH_ATM_PRESS	AIR PRESSURE
ECU_7	BOSCH_FUEL_TEMP	FUEL TEMPERATURE
ECU_8	BOSCH_OIL_TEMP	OIL TEMPERATURE
ECU_9	BOSCH_ENGINE_TEMP	ENGINE TEMPERATURE
ECU_10	BOSCH_AIR_TEMP	AIR TEMPERATURE
ECU_11	BOSCH_THROTT_ANG	THROTTLE ANGLE
ECU_12	BOSCH_IGNIT._ANG	IGNITION ANGLE
ECU_13	BOSCH_AIR_CHARGE	ENGINE LAOD
ECU_14	BOSCH_INJEC_TIME1	INJECTION TIME1
ECU_15	BOSCH_INJECT_TIME2	INJECTION TIME2
ECU_16	BOSCH_LAMBDA1	LAMBDA PROBE 1
ECU_17	BOSCH_LAMBDA2	LAMBDA PROBE 2
ECU_18	BOSCH_GEAR_POT_C	GEAR POTENZIOMETER
ECU_19	BOSCH_GEAR_SHIFT_C	N.A.
ECU_20	BOSCH_FUEL_USED	FUEL CONSUMPTION
ECU_21	BOSCH_FUEL_LAP	FUEL CONSUMPTION PER LAP
ECU_22	BOSCH_GEAR	GEAR NUMBER
ECU_23	BOSCH_VBATT	VOLTAGE BATTERY
ECU_24	BOSCH_MAPPOS	MAP POSITION
ECU_25	BOSCH_PWAT	WATER PRESSURE
ECU_26	BOSCH_PCRANNK	CRANK PRESSURE
ECU_27	BOSCH_PCLUTCH	CLUTCH PRESSURE
ECU_28	BOSCH_SPEED_F_L	SPEED FRONT LEFT
ECU_29	BOSCH_SPEED_F_R	SPEED FRONT RIGHT
ECU_30	BOSCH_SPEED_R_L	SPEED REAR LEFT
ECU_31	BOSCH_SPEED_R_R	SPEED REAR RIGHT
ECU_32	BOSCH_ACC_X	ACCELEROMETER VALUE(X)
ECU_33	BOSCH_ACC_Y	ACCELEROMETER VALUE(Y)
ECU_34	BOSCH_ACC_Z	ACCELEROMETER VALUE(Z)
ECU_35	BOSCH_STEER	STEERING ANGLE
ECU_36	BOSCH_YAV	GYRO
ECU_37	BOSCH_GEARV	GEAR VOLTAGE
ECU_38	BOSCH_BVMAX_REQV	WARNING SENSOR
ECU_39	BOSCH_BVMAX	WARNING SENSOR
ECU_40	BOSCH_BSHIFTLAMP_ON	GEAR FLASH
ECU_41	BOSCH_BKNOCK	KNOCKING SENSOR
ECU_42	BOSCH_BMAIL	WARNING SENSOR
ECU_43	BOSCH_BOIL	WARNING SENSOR
ECU_44	BOSCH_BLCA	WARNING SENSOR
ECU_45	BOSCH_BASR	WARNING SENSOR

4.4 – Configure your data logger with Race Studio 2 software

In order to ensure the communication between AIM data loggers and the ECU it is necessary to configure the logger following this procedure:

- run **Race Studio 2** software
- press AIM System manager button
- a choice panel appears: select the logger to connect to the ECU
- press “GO TO” button.

System Manager window shown here below appears:

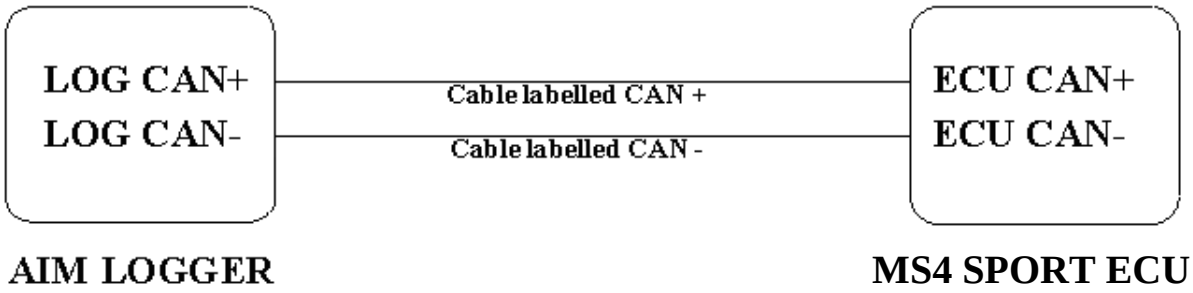


- Press “New”
- New configuration window appears (shown here above); fill it in as follows
- Logger type: the logger to connect to the ECU
- ECU Manufacturer: **BOSCH**
- ECU Model: **MS4_997**
- Click on “OK”

Chapter 5 – BOSCH - MS4 SPORT

5.1 – CAN Communication Set-Up

The ECU has a digital communication CAN Protocol used to communicate parameters to a data logger, or to configure the ECU itself.



5.2 – Connection to AIM data loggers

Due to the fact that this ECU model has two 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-)**. Connect cable labelled CAN+ with ECU CAN+ and cable labelled CAN- with ECU CAN -.

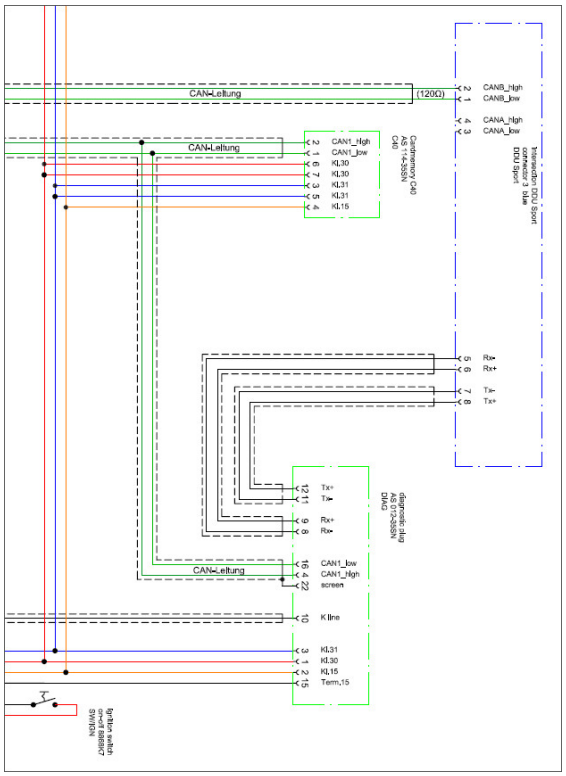
PIN	FUNCTION	COMMENTS
60 /58	CAN+/CAN-	CAN 1
79/77	CAN+/CAN-	CAN 2

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

Here below the wiring diagram of Bosch MS4 Sport is shown.

To zoom this image please click on:

http://www.aim-sportline.com/download/doc/eng/Wiring_Diagram_MS4_Sport.pdf



5.3 – Bosch MS4 Protocol

Channels shown on AIM data loggers via CAN Protocol with Bosch MS4 Customer Protocol are:

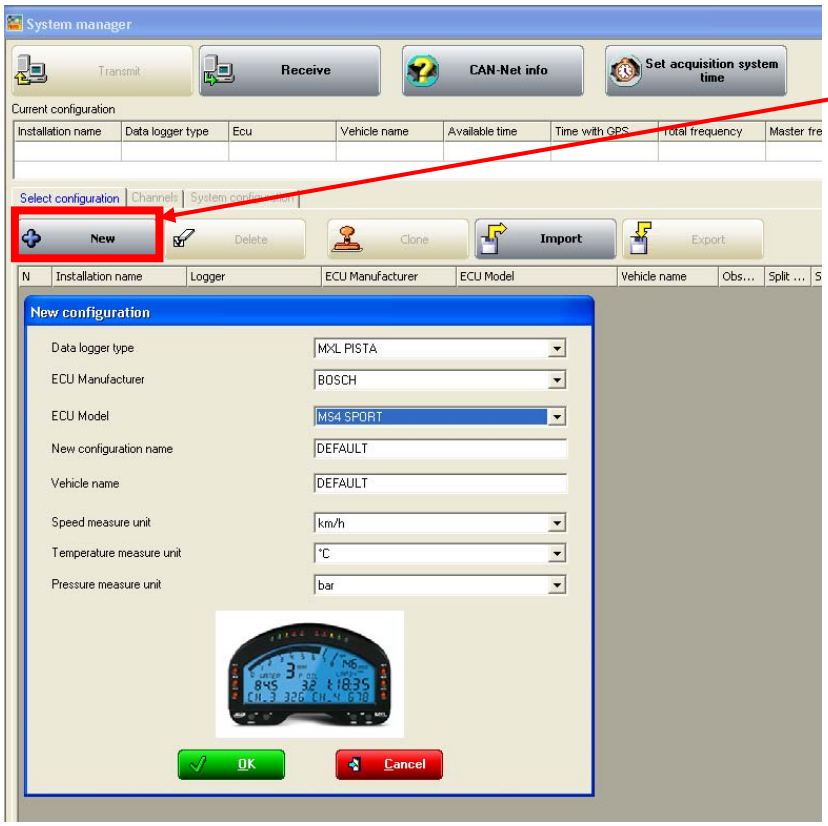
ECU_1	MS4_RPM	RPM VALUE
ECU_2	MS4_SPEED	SPEED VALUE
ECU_3	BOSCH_TPS	THROTTLE POSITION SENSOR
ECU_4	BOSCH_GEAR	GEAR NUMBER
ECU_5	BOSCH_WH_SPD_FL	WHEEL SPEED FRONT LEFT
ECU_6	BOSCH_WH_SPD_FR	WHEEL SPEED FRONT RIGHT
ECU_7	BOSCH_ WH-SPD_RL	WHEEL SPEED REAR LEFT
ECU_8	BOSCH_WH_SPD_RR	WHEEL SPEED REAR RIGHT
ECU_9	BOSCH_LAM1	LAMBDA1
ECU_10	BOSCH_LAM2	LAMBDA2
ECU_11	BOSCH_OIL_P	OIL PRESSURE
ECU_12	BOSCH_ATM_P	AIR PRESSURE
ECU_13	BOSCH_FUEL_P	FUEL PRESSURE
ECU_14	BOSCH_CRANK_P	CRANK PRESSURE
ECU_15	BOSCH_P1	PRESSURE 1
ECU_16	BOSCH_OIL_T	OIL TEMPERATURE
ECU_17	BOSCH_ATM_T	AIR TEMPERATURE
ECU_18	BOSCH_FUEL_T	FUEL TEMPERATTURE
ECU_19	BOSCH_ECT	WATER TEMPERATURE
ECU_20	BOSCH_EX_T1	EXHAUST GAS TEMPERATURE1
ECU_21	BOSCH_EX_:T2	EXHAUST GAS TEMPERATURE2
ECU_22	BOSCH_LAMBDA T1	LAMBDA TEMPERATURE1
ECU_23	BOSCH_LAMBDA T	LAMBDA 2
ECU_24	BOSCH_BATTVOLT	BATTERY VOLTAGE
ECU_25	BOSCH_MIL	MALFUNCTIONING INDICATOR LAMP
ECU_26	BOSCH_OIL_SW	OIL SWITCH

5.4 – Configure your data logger with Race Studio 2 software

In order to ensure the communication between AIM data loggers and the ECU it is necessary to configure the logger following this procedure:

- run **Race Studio 2** software
- press AIM System manager button
- a choice panel appears: select the logger to connect to the ECU
- press “GO TO” button.

System manager window shown here below appears:



- Press “New button”
- New configuration window appears (shown here above); fill it in as follows
- Logger type: the logger to connect to the ECU
- ECU Manufacturer: **BOSCH**
- ECU Model: **MS4 SPORT**
- Click on OK button

Chapter 6 – BOSCH – PORSCHE 911 (Mod.997) - Pinout not available

6.1 – Connection to AIM Data logger

The ECU has a digital communication CAN Protocol used to communicate parameters to a datalogger, or to configure itself. This ECU can be installed on Porsche 911 (997).

Here below all models compatible with Porsche 991(997) CAN protocol are listed:

2004

CARRERA

CARRERA S

CARRERA CABRIO

CARRERA S CABRIO

2005

CARRERA 4

CARRERA 4S

CARRERA 4 CABRIO

CARRERA 4 S CABRIO

2006

997 TARGA

997 TARGA 4 S

6.2 – BOSCH PORSCHE 911 (Mod. 997) protocol

Channels shown on AIM data loggers via CAN Protocol with Bosch Porsche 911 (Mod. 997) are:

ECU_1	P997_RPM	RPM
ECU_2	P997_SPEEDFL	VEHICLE SPEED – FRONT LEFT WHEEL
ECU_3	P997_SPEEDFR	VEHICLE SPEED – FRONT RIGHT WHEEL
ECU_4	P997_SPEEDRL	VEHICLE SPEED – REAR LEFT WHEEL
ECU_5	P997_SPEEDRR	VEHICLE SPEED – REAR RIGHT WHEEL
ECU_6	P997_PPS	PEDAL POSITION SENSOR
ECU_7	P997_ENGINE_TEMP	ENGINE TEMPERATURE
ECU_8	P997_STEER_ANGLE	STEERING ANGLE
ECU_9	P997_FREE	CUSTOM CHANNEL
ECU_10	P997_FREE	CUSTOM CHANNEL
ECU_11	P997_FREE	CUSTOM CHANNEL
ECU_12	P997_FREE	CUSTOM CHANNEL

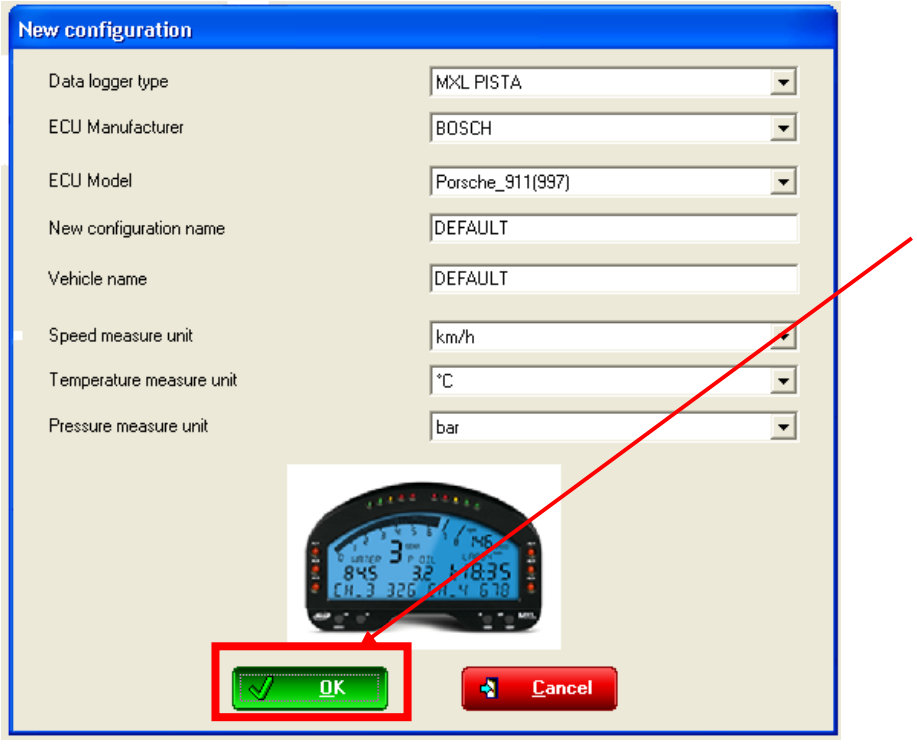
6.3 – Configure your data logger with Race Studio 2 software

In order to ensure the communication between AIM data loggers and the ECU it is necessary to configure the logger following this procedure:

- run **Race Studio 2** software
- press AIM System manager button
- a choice panel appears: select the logger to connect to the ECU
- press “GO TO”

System manager window appears:

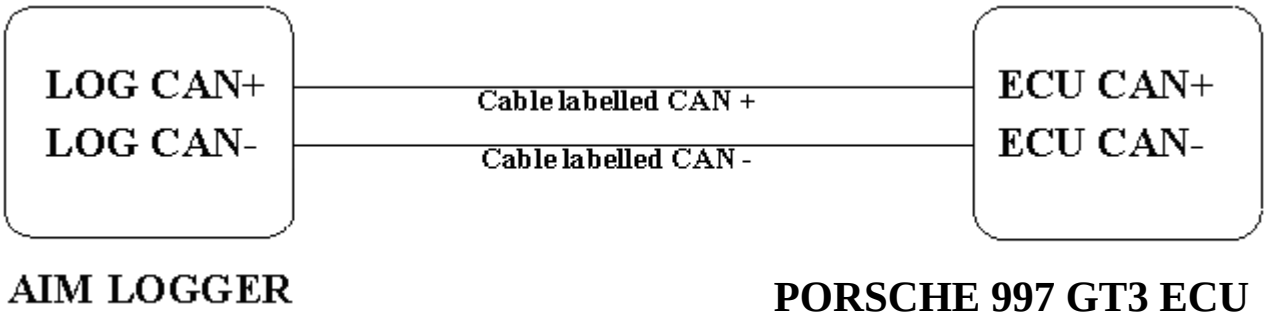
- Press “New”
- New configuration window appears (shown here below); fill it in as follows
- Logger type: the logger to connect to the ECU
- ECU Manufacturer: **BOSCH**
- ECU Model: **Porsche_991 (997)**
- Click on OK



Chapter 7 – BOSCH – PORSCHE 997 GT3 (street car)

7.1 – CAN Communication Set-Up

The ECU we call Bosch Porsche 997 GT3 is an ECU made by Bosch manufacturer and generally installed on Porsche 911 cars (997 GT3 road car model). This ECU has a Can Protocol and is equipped with a 40 pins connector called “D” and used to communicate with an external data logger as well as to configure the ECU itself.



7.2 – Connection to AIM Data logger

To connect AIM logger to the ECU, connect cable labelled CAN+ of AIM wiring to pin D36 of the ECU (CAN HIGH) and cable labelled CAN– of AIM wiring to pin D37 of the ECU (CAN LOW), as in the table below:

Pin	Function	Comments
D36	CAN +	
D37	CAN -	

7.3. – BOSCH PORSCHE 997 GT3 protocol

Channels shown on AIM data loggers via CAN Protocol with Bosch Porsche 997 GT3 (Road car) are:

ECU_1	BOSCH_RPM	RPM VALUE
ECU_2	BOSCH_TPS	THROTTLE POSITION SENSOR
ECU_3	BOSCH_PPS	PEDAL POSITION SENSOR
ECU_4	BOSCH_WH _SPD_FL	WHEEL SPEED LEFT WHEEL
ECU_5	BOSCH_WH_SPD_FR	WHEEL SPEED RIGHT WHEEL
ECU_6	BOSCH_WH_SPD_RL	WHEEL SPEED RIGHT WHEEL
ECU_7	BOSCH_WH_SPD_RR	WHEEL SPEED LEFT WHEEL
ECU_8	BOSCH_BOOST_P	BOOST PRESSURE
ECU_9	BOSCH_ECT	WATER TEMPERATURE
ECU_10	BOSCH_OIL_T	OIL TEMPERATURE
ECU_11	BOSCH_OIL_P	OIL PRESSURE
ECU_12	BOSCH_STEERANGLE	ANGLE OF STEERING
ECU_13	BOSCH_STEERSPEED	SPEED OF STEERING
ECU_14	BOSCH_BRAKE_SW	BRAKE SWITCH
ECU_15	BOSCH_GEAR	GEAR NUMBER
ECU_16	BOSCH_FUEL_LEVEL	FUEL LEVEL

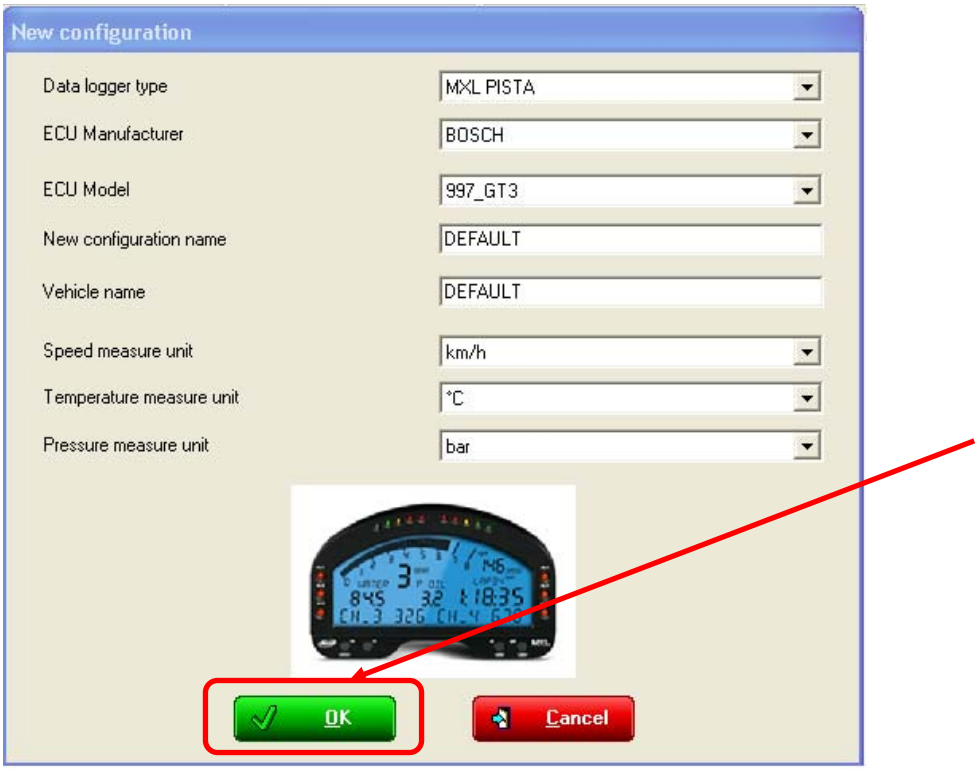
7.4 – Configure your data logger with Race Studio 2 software

In order to ensure the communication between AIM data loggers and the ECU it is necessary to configure the logger following this procedure:

- run **Race Studio 2** software
- press AIM System manager button
- a choice panel appears: select the logger to connect to the ECU
- press “GO TO” .

System manager window appears:

- Press “New”
- New configuration window appears (shown here below); fill it in as follows
- Logger type: the logger to connect to the ECU
- ECU Manufacturer: **BOSCH**
- ECU Model: **997_GT3**
- Click on “OK”



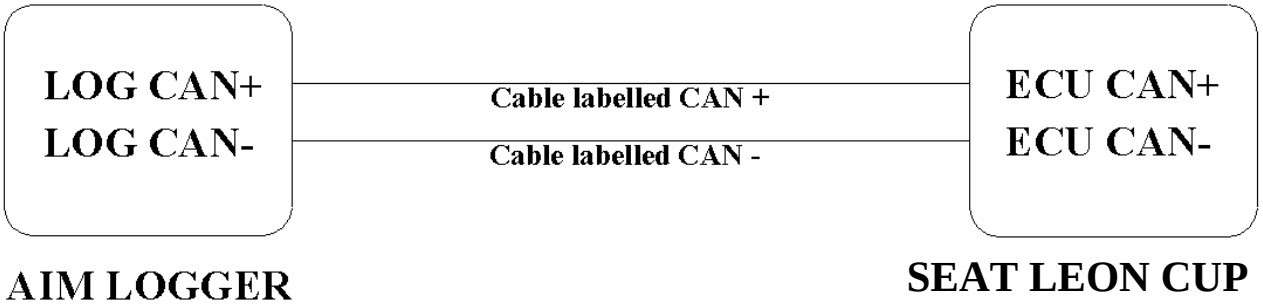
Chapter 8 – BOSCH MOTRONIC MED 9.1– SEAT LEON CUP

8.1 – CAN Communication Set-Up

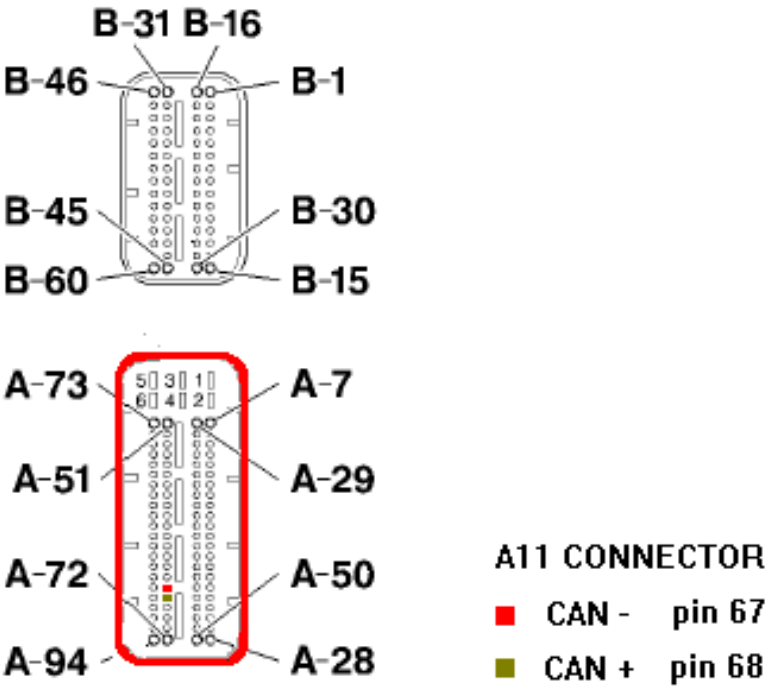
The ECU has a digital communication CAN Protocol and is equipped with a 94 pins connector (named A11) used to communicate parameters to the data logger. The data logger communicates with the ECU through a dedicated connector.

8.2 – Connection to AIM data loggers

Connect cable labelled CAN+ of AIM wiring to pin 68 (CAN+) of A11 connector and cable labelled CAN- of AIM wiring to pin 67 (CAN-) of A11 connector .



Here below the A11 Connector pinout:



8.3– BOSCH SEAT LEON CUP Protocol

Channels shown on AIM data loggers via CAN Protocol with Bosch for Seat Leon Cup are:

ECU_1	BOSCH_RPM	RPM
ECU_2	BOSCH_FOOT_THROTTLE	PEDAL POSITION SENSOR
ECU_3	BOSCH_THROTTLE	THROTTLE POSITION SENSOR
ECU_4	BOSCH_SPEED_FL	SPEED FRONT RIGHT
ECU_5	BOSCH_SPEED_FR	SPEED FRONT LEFT
ECU_6	BOSCH_SPEED_RL	SPEED REAR LEFT
ECU_7	BOSCH_SPEED_RR	SPEED REAR RIGHT
ECU_8	BOSCH_WATER _TEMP	WATER TEMPERATURE
ECU_9	BOSCH_AIR_TEMP	AIR TEMPERATURE
ECU_10	BOSCH_TURBO_PRESS	TURBO PRESSURE
ECU_11	BOSCH_TURBO_PRESS_HF	
ECU_12	BOSCH_TURBO _PRESS_LF	
ECU_13	BOSCH_BOOST_PRESS	
ECU_14	BOSCH_FUEL_PRESS_L	FUEL PRESS LOW
ECU_15	BOSCH_FUEL_PRESS_HFUEL PRESS HIGH	
ECU_16	BOSCH_LAMBDA	LAMBDA VALUE
ECU_17	BOSCH_AIRFLOW	
ECU_18	BOSCH_GEAR	GEAR NUMBER
ECU_19	BOSCH_GEAR_LEVER_POS	
ECU_20	BOSCH_GEAR_LEVER_POS2	
ECU_21	BOSCH_FAILURE	SYSTEM FAILURE

8.4 – Configure your data logger with Race Studio 2 software

In order to ensure the communication between AIM data loggers and the ECU it is necessary to configure the logger following this procedure:

- run **Race Studio 2** software
- press AIM System manager button
- a choice panel appears: select the logger to connect to the ECU
- press “GO TO”

System manager window shown appears:

- Press “New”
- New configuration window appears (shown here below); fill it in as follows
- Logger type: the logger to connect to the ECU
- ECU Manufacturer: **BOSCH**
- ECU Model: **Seat_Leon_Cup**
- Click on “OK”