

Toyota Auris



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.

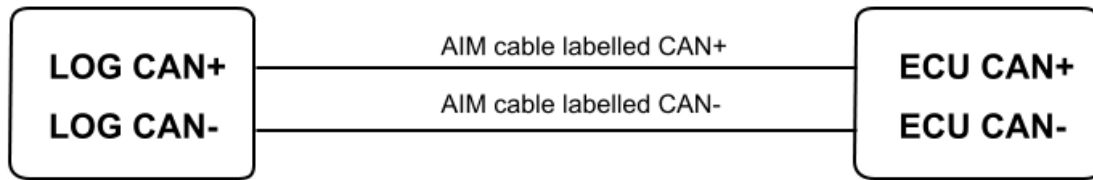
Warning: once the ECU is connected to the logger, it is necessary to set it in the logger configuration in Race Studio 2 software.

Select Manufacturer “Toyota ” Model “AURIS”.

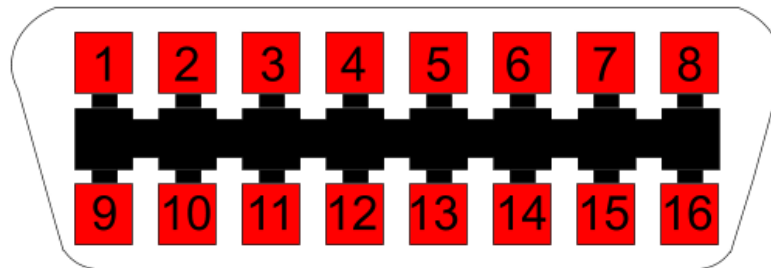
Refer to Race Studio Configuration user manual for further information concerning the loggers configuration.

1 – CAN communication Setup

Toyota Auris 2.2 TDI ECU is equipped with a CAN communication protocol used to communicate parameters to a data logger or to configure the ECU.



The CAN bus is available on OBDII diagnosis connector, placed into the cockpit (see – OBDII connector positions – paragraph for more details). The OBD-II standard connector and its pinout are shown here below:



Pin	Function
2	Bus positive Line of SAE-J1850
4	Chassis Ground
5	Signal Ground
6	CAN + (ISO 15765-4 and SAE J2234)
7	K Line of ISO 9141-2 and ISO 14230-4
10	Bus negative Line of SAE-J1850
14	CAN – (ISO 15765-4 and SAE-J2234)
15	L line of ISO 9141-2 and ISO 14230-4
16	Battery voltage

2 – Connection to AIM loggers

2.1 – OBD II connector positions

OBDII connector is placed on the driver side, underneath dashboard, between the driver-side door and steering column (see image below).



2.2 – OBDII connection

To connect OBDII to AIM loggers connect:

- AIM cable labelled CAN+ to pin 6 of the OBDII connector.
- AIM cable labelled CAN- to pin 14 of the OBDII connector.

OBDII supplies also external power to the logger as follows:

- VBatt (+12V) on pin 16 of the OBDII connector..
- GND on pin 5 of the OBDII connector..

OBDII is not powered by the vehicle master switch, so if AIM logger is connected to OBDII for a long time the battery runs down.

The CAN communication works only if the dashboard is switched on.

3 – ECU Communication protocol

Channels received by AIM loggers connected to Toyota Auris 2.2 TDI ECU are:

ID	CHANNEL NAME	FUNCTION
ECU_1	WHEEL_SPEED_FR	Wheel speed front rear
ECU_2	WHEEL_SPEED_FL	Wheel speed front left
ECU_3	WHEEL_SPEED_RR	Rear right
ECU_4	WHEEL_SPEED_RL	Rear left
ECU_5	BRAKE_PRESS	Brake pressure
ECU_6	PPS	Pedal position sensor
ECU_7	RPM	Rpm
ECU_8	PARK_BRAKE	Hand brake