Lotus ECU for

Elise S , Elise R, Elise SC, Exige S, Exige 260 Cup

Model Year 2008 – 2009

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 "Lotus" Model "CLUSTERS 08-09".
Refer to Race Studio Configuration user manual for further information concerning the loggers configuration.

Chapter 1 – Car Models

Lotus Clusters 08-09 protocol is stock on these car models (Years 2008 – 2009):

- Elise S;
- Elise R;
- Elise SC;
- Exige S;
- Exige 260 Cup.

Chapter 2 – CAN communication Setup

Lotus ECU is equipped with a CAN communication protocol used to communicate parameters to a data logger.
The CAN bus is available on OBDII diagnosis connector, on the 12 pins connector placed back on the stock dashboard or on the ECU.

Chapter 3 – Connection to AIM loggers

3.1 – Connection through the OBDII plug

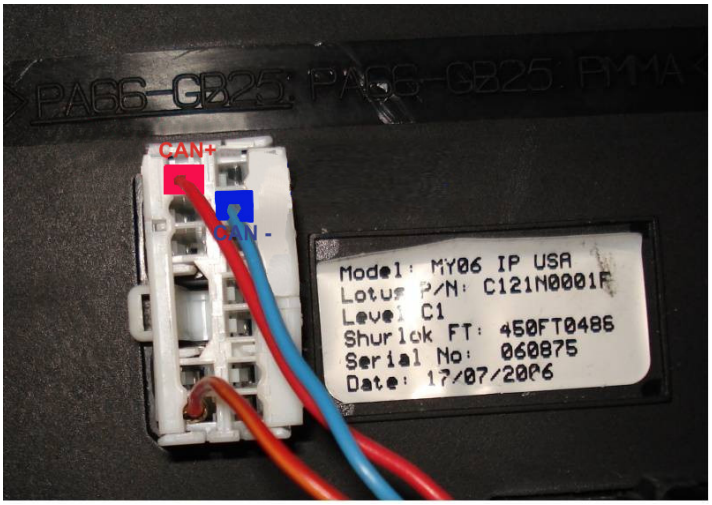
To connect OBDII with AIM loggers connect AIM cable labelled CAN+ to pin 6 and cable labelled CAN- to pin 14 of the OBDII connector. OBDII supplies also external power to the logger. VBatt (+12V) is on pin 16 and chassis GND on pin 4.

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

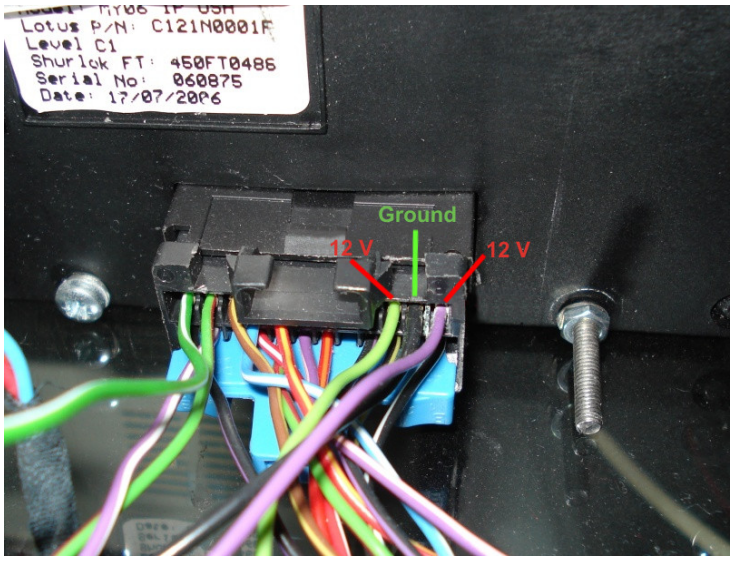
The CAN communications works only if the dashboard is switched on.

3.2 –Connection through the stock dashboard

To receive data coming from the ECU through the stock dashboard connect AIM cable labelled CAN+ with pin 1 (red wiring) and AIM cable labelled CAN - with pin 7 (blue wiring) of the 12 pins connector placed back on the stock dashboard.
The power supply of MXL can be obtained through the other connector placed always back of the original dashboard.



In case of permanent installation it is necessary to check which cable of the second connector is powered by the master switch. With reference to the below image the cables to check are the green and the purple one.



Chapter 4 – Lotus Clusters 08 – 09 communication protocol

Channels received by AIM loggers connected to Lotus ECU are:

ID	CHANNNEL NAME	FUNCTION
ECU_1	CU_SPEED	SPEED
ECU_3	CU_RPM	RPM
ECU_4	CU_FUEL_IST	Instant Fuel
ECU_5	CU_FUEL_AVE	Average Fuel
ECU_6	CU_ENGT	Engine Temperature
ECU_7	CU_SF_LIGHT1	Shift Lights
ECU_8	CU_SF_LIGHT2	Shift Lights
ECU_9	CU_SF_LIGHT3	Shift Lights
ECU_10	CU_MIL_LIGHT	Malfunction Indicator Light
Ecu_11	CU_OIL_LIGHT	Oil Light
ECU_12	CU_TC_LIGHT	Temperature Cooling Light
ECU_15	CU_SERV_LIGHT	Service Light
ECU_19	CU_TH20_LIGHT	Water Temp Light
ECU_23	CU_SEL_LTC	10 step Lotus Traction Control