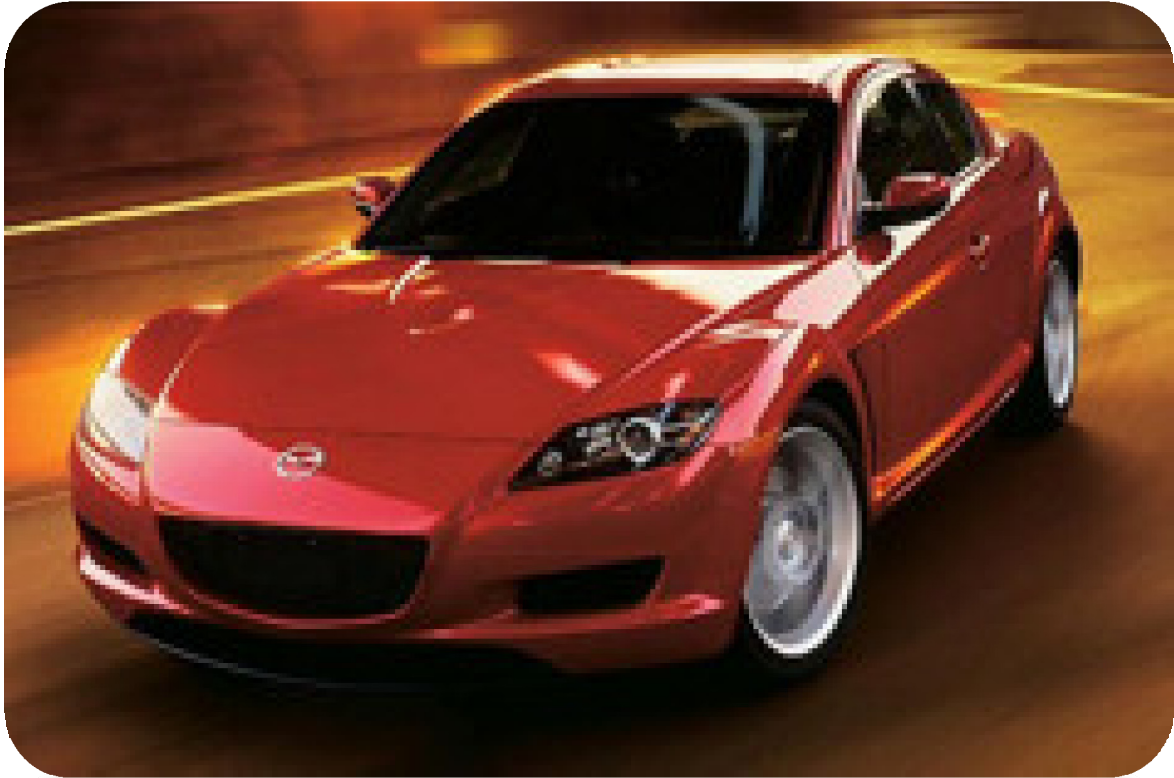


**Denso ECU for
Mazda RX8 and Rx8 “Limited”**



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 “Mazda” Model “RX8”.

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

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Chapter 1 – Car Models

Denso ECU is installed as a stock on the following car models:

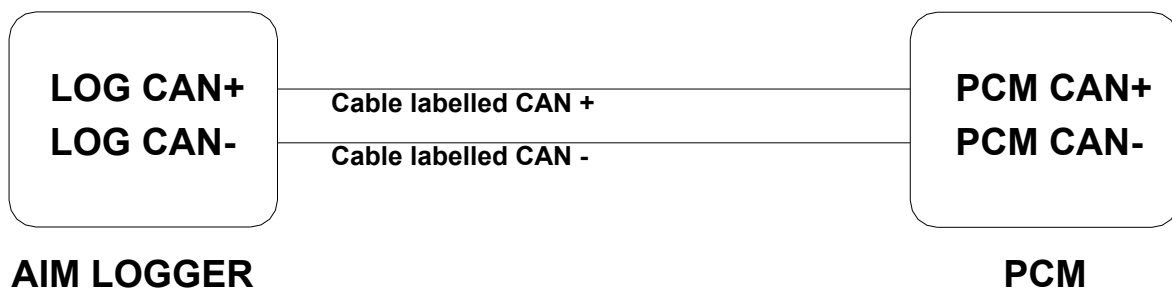
- RX8
- RX8 “Limited”

Chapter 2 – CAN Communication Setup

Denso PCM (ECU) is equipped with a CAN communication protocol used to communicate parameters to a data logger.

PCM has 5 connectors used to communicate with an external logger.

The image here below shows the standard CAN communication setup.



Chapter 3 – Connection with AIM loggers

3.1 – Connection through the OBDII plug

First of all it is necessary to find the OBDII connector position.

OBDII connector is placed below the dashboard in correspondence of the steering column – refer to the image below.

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 GND on pin 5.

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.

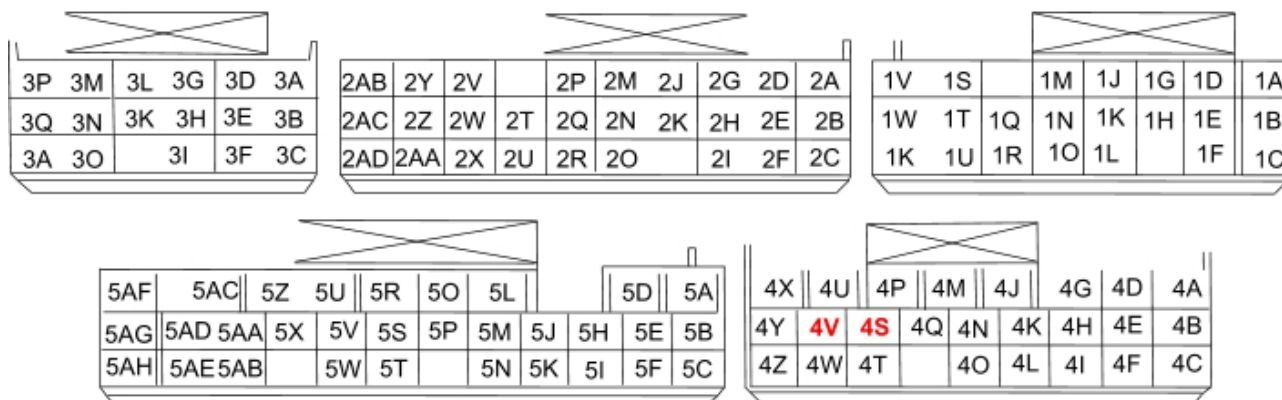


OBDII CONNECTOR POSITION

3.2 – Connection through the PCM connector.

To receive data coming from Mazda Rx8 and Mazda Rx8 “limited” – Denso – PCM, connect AIM cable labelled CAN+ with pin 4V, and AIM cable labelled CAN- with pin 4S – Refer to the image below.

SOLDER TERMINATION VIEW



Chapter 4 – Mazda RX8 communication protocol

Channels received by AIM loggers connected to Mazda RX8 and Mazda Rx8 “limited” – Denso – PCM are:

ID	CHANNEL NAME	FUNCTION
ECU_1	RX8_RPM	RPM
ECU_5	RX8_VELASX	Front left wheel speed
ECU_6	RX8_VELADX	Front right wheel speed
ECU_7	RX8_VELPSX	Rear left wheel speed
ECU_8	RX8_VELPDX	Rear right wheel speed
ECU_11	RX8_BRAKE	Brake
ECU_16	RX8_PPS	Pedal Position sensor
ECU_21	RX8_WTEMP	Water Temperature
ECU_26	RX8_IAT	Intake air temperature
ECU_29	RX8_LOADENG	Load engine
ECU_30	RX8_AFR	Lambda value
ECU_31	RX8_ADV	Advance
ECU_32	RX8_TEMPCAT	Catalyst temperature
ECU_33	RX8_FUEL_LEVEL	Fuel level