AiM Infotech

BMW M5 (E60), M6 (E63) OBDII + ECU Connection

Release 1.01

This tutorial explains how to connect BMW cars to AiM devices.

1 Car models and years

Supported car models and years are:

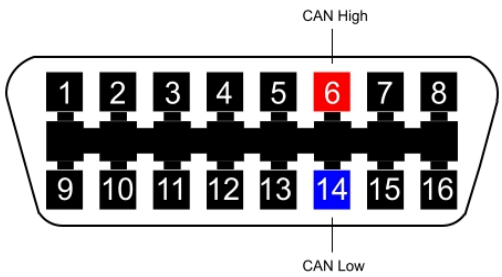
- BMW M5 (E60) 2005-2010
- BMW M6 (E63) 2005-2010

2 Available connections

These car models can be connected to AiM devices through the OBDII plug or going to the car ECU.

2.1 OBDII Connection

These BMW cars feature a bus communication protocol based on CAN on the OBDII plug placed on the car driver side, left of him, normally protected by a cover with OBD written on. Connector pinout as well as connection table are shown here below



OBDII connector pin	Pin function	AiM cable
6	CAN High	CAN+
14	CAN Low	CAN-

2.2
ECU Connection

These BMW cars feature a bus communication protocol based on CAN on the car ECU. Regardless of the stock ECU installed on your car, colours of the cables are always the same, they are twisted and here below they are indicated.

Pin function	BMW ECU cable colour	AiM cable label
CAN High	Blue/Red	CAN+
CAN Low	Red	CAN-

In alternative they can be as below.

Pin function	BMW ECU cable colour	AiM cable label
CAN High	Black	CAN+
CAN Low	Yellow	CAN-

3
AiM device configuration

Before connecting the ECU to AiM device set this up using AiM Race Studio software. The parameters to select in the device are:

- ECU manufacturer “OBDII” and ECU Model "CAN" if you are using the OBDII plug
- ECU manufacturer "BMW" and ECU Model "M6" if you are using the car ECU

4
Available channels

Channels received by AiM devices change according to the selected protocol.

4.1
Channels available with "CAN" protocol

Channels received by AiM devices connected to "OBDII" "CAN" protocol are:

ID	CHANNEL NAME	FUNCTION
ECU_1	OBDII_RPM	RPM
ECU_2	OBDII_SPEED	Speed
ECU_3	OBDII_ECT	Engine coolant temperature
ECU_4	OBDII_TPS	Throttle position sensor
ECU_5	OBDII_IAT	Intake air temperature
ECU_6	OBDII_MAP	Manifold air pressure
ECU_7	OBDII_MAF	Manifold air flow
ECU_8	OBDII_FUEL_LEV	Fuel level
ECU_9	OBDII_PPS	Pedal position sensor

Please note: channels listed above are those polled by AiM devices. They may or may not come across in the data stream depending on models. RPM, TPS, ECT and speed are generally available.

4.2
Channels available with "M6" protocol

Channels received by AiM devices connected to "BMW" "M6" protocol are:

ID	CHANNEL NAME	FUNCTION
ECU_1	M6_RPM	RPM
ECU_2	M6_SPEED1	Speed 1
ECU_3	M6_SPEED2	Speed 2
ECU_4	M6_PPS	Pedal position sensor
ECU_5	M6_BRAKE SW	Brake switch
ECU_6	M6_GEAR_SW_MAN	Manual gear switch
ECU_7	M6_GEAR	Engaged gear
ECU_8	M6_OILT	Oil temperature
ECU_9	M6_ECT	Engine coolant temperature

Technical note: not all data channels outlined in the ECU template are validated for each manufacturer model or variant; some of the outlined channels are model and year specific, and therefore may not be applicable.