BMW PT_6 ECUS

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 the ECU to our hi-tech data loggers: users need only to install harness between the **logger** and the ECU unit.

Once connected, the **logger** displays (and 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" "BMW" and Model "BMW_PT6".
Refer to Race Studio Configuration user manual for further information concerning the logger configuration.

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Chapter 1 – Car Models

BMW PT_6 protocol is the stock one for the following car models:

E90 E91 E92 E93 (3 series)

- 325i
- 335i
- M3 V8

E87 (1 series)

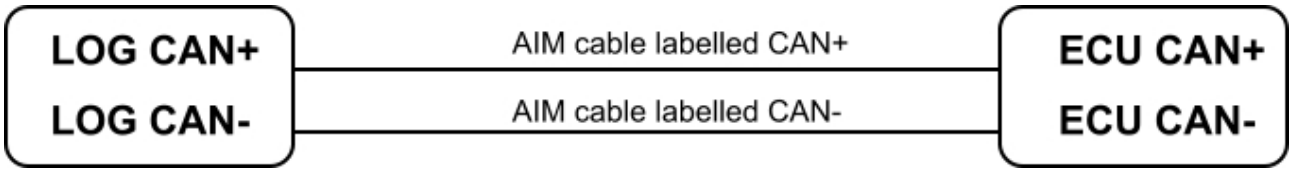
- 120d
- 130i

E60 (5 series)

- 535i

Chapter 2 – CAN communication setup

These cars ECU are equipped with a CAN communication setup used to communicate with an external logger. The image here below shows the standard communication setup.



Chapter 3 – Connection with AIM loggers

ECUs of these BMW cars have twisted wires out coming.

As far as 1 series models are concerned these ECU are installed front right under the bonnet and have a 26 pin connector from which wires out come.

To connect these BMW cars to AIM loggers:

- connect AIM cable labelled CAN+ to red/blue cable (CAN High)of BMW ECU wiring;
- connect AIM cable labelled CAN- to red (CAN Low) cable of BMW ECU wiring.

Chapter 3 – BMW PT_6 communication protocol

Channels received by AIM loggers connected to those cars ECU are:

ID	CHANNEL NAME	FUNCTION
ECU_1	RPM	RPM
ECU_2	PEDAL_POSITION	Throttle request
ECU_3	SPEED_BMW	Speed
ECU_4	SPEED2_BMW	Speed2
ECU_5	WHEEL_SPD_FR_LF	Front Left wheel speed
ECU_6	WHEEL_SPD_FR_RH	Front Right wheel speed
ECU_7	WHEEL_SPD_RR_LF	Rear Left wheel speed
ECU_8	WHEEL_SPD_RR_RH	Rear Right wheel speed
ECU_9	STEER_ANGLE	Steering angle position
ECU_10	CLUTCH_SWITCH	Clutch switch
ECU_11	BRAKE_SWITCH	Brake switch
ECU_12	BRAKE_PRESS	Brake pressure sensor
ECU_13	BRAKE_PR_FR_LF	Front left wheel brake pressure sensor
ECU_14	BRAKE_PR_FR_RH	Front right wheel brake pressure sensor
ECU_15	BRAKE_PR_RR_LF	Rear left wheel brake pressure sensor
ECU_16	BRAKE_PR_RR_RH	Rear right wheel brake pressure sensor
ECU_17	WATER_TEMP	Engine cooling Temperature
ECU_18	OIL_TEMP	Oil Temperature
ECU_19	TEMP_OUTSIDE	Intake air temperature
ECU_20	MAP	Manifold pressure
ECU_21	GEAR	Engaged Gear
ECU_22	ACC_LONG	Longitudinal acceleration
ECU_23	ACC_LAT	Lateral acceleration
ECU_24	GYRO	Gyroscope
ECU_25	DISTANCE_KM	Distance
ECU_26	FUEL	Fuel level
ECU_27	BATTERY	Battery level
ECU_28	FUEL INJ	Fuel injection