AiM Infotech

AUDI
A3, A4, TT

Release 1.05

1
Models and years

This document explains how to connect AiM devices to the vehicle Engine Control Unit (ECU) data stream.
Supported models and years are:

• Audi A3	2nd series	2003 - 2012
• Audi A4	3rd series	2005 - 2008
• Audi TT	1st series	2001 - 2006
• Audi TT	2nd series	2006 - 2014

2
Wiring connection

AiM devices can be connected to these models in two different ways:

- through a direct connection to the ECU CAN wires, using a specific AUDI CAN protocol
- through the OBD II plug, using a standard OBD II protocol (easy connection, basic parameters)

2.1
ECU CAN Connection

Audi cars are equipped with a communication protocol based on CAN. Regardless of the standard ECU installed on the car, colors of the cables to be connected to are always the same, they are twisted and positioned in different locations: behind the instrument cluster, near the steering column, behind the fuse box or the glove box inside the main wiring loom. Follow the connection table below.

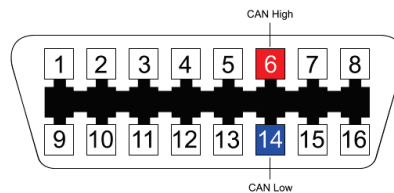| Audi ECU color cable	Pin function	AiM cable label	AiM color cable
Orange/Black	CAN High	CAN+	White
Orange/Brown	CAN Low	CAN-	Blue

2.2
Race Studio configuration

Before connecting the AiM device to the ECU, set all funcions using AiM software Race Studio.
The parameters to set in the device configuration are:

- ECU manufacturer: **AUDI**
- ECU model: **CAN_PQ35_P5**

2.3
OBDII Connection

These models feature a standard diagnostic protocol based on CAN or K-Line depending on the year. These are accessible through the OBD II plug, placed on the driver side, in the footrest area. For this installation refer to the following pinout of the car's plug (vehicle side – front view) and connection table:

OBDII Pin	Function	AiM cable	AiM color cable
6	CAN High	CAN+	White
14	CAN Low	CAN-	Blue

2.4
OBDII – Race Studio configuration

Before connecting the AiM device to the OBD II plug, set all funcions using AiM software Race Studio. The parameters to set in the device configuration are:

- ECU Manufacturer: **OBD_II**
- ECU Model: **KWP2000_SLOW_INIT** (Only RS2) all models before 2008
  CAN all models after 2008

3
Protocols

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

3.1
"AUDI - CAN_PQ35_P5" protocol

Channels received by AiM devices configured with "AUDI - CAN_PQ35_P5" protocol are:

CHANNEL NAME	FUNCTION
STEER SPEED	Steering wheel speed
STEER ANGLE	Steering angle position
STEER SIGN	Steering sign
ASR ACTIVE	ASR Active
ABS ACTIVE	ABS Active
ASR MOM FAST	Fast ASR torque reduction
ASR MOM SLOW	Slow ASR torque reduction
ASR OFF	ASR off
MO1 MO M EX	Engine moment
MO1 RPM	Engine RPM
MO1 PEDAL	Pedal position sensor
DES TORQUE	Desired engine torque
ENG TORQ LOSS	Engine torque loss
T WATER	Water temperature
MO2 BLS	Brake light signal
ABS SWITCH	ABS switch
TAIR	Intake air temperature
LIMITER	Speed limiter
SHIFT DOWN	Tiptronic-Tip-Down

SHIFT UP	Tiptronic-Tip-Up
BLINKER LEFT	Left turning light
BLINKER RIGHT	Right turning light
FAULT LAMP	Fault lamp
STEER ERR	Steering error
SUP POW STEER	Supplied power steering
TSTEER	Steering temperature
GE1 ACTIVE	Gear shifting active
GE1 LEV POS	Gear lever position
GE1 SOLL MO	Required internal moment
OIL TEMP 2	Oil temperature 2
V WH FL	Front left wheel speed
V WH FR	Front right wheel speed
V WH RL	Rear left wheel speed
V WH RR	Rear right wheel speed
BRAKE PRESS	Brake pressure
GE2 SYNCDZ	Angular speed
T OIL	Oil temperature
BOOST	Boost pressure
ABS OFF	ABS Off
ASR SWITCH	ASR switch
GEAR	Engaged gear

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.

3.2
"OBD_II – CAN / KWP2000_SLOW_INIT" protocol

Channels received by AiM devices connected to "OBD_II – CAN / KWP2000_SLOW_INIT " protocol are:

CHANNEL NAME	FUNCTION
OBDII RPM	Engine RPM
OBDII SPEED	Vehicle speed
OBDII TPS	Throttle position sensor
OBDII PPS	Pedal position sensor
OBDII ECT	Engine coolant temperature
OBDII IAT	Intake air temperature
OBDII FuelLev	Fuel level
OBDII MAP	Manifold air pressure
OBDII MAF	Manifold air flow

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.