

AiM Infotech

AUDI

A3, A4, A5, A6, A8, TT, R8

Release 1.04



ECU



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

1 Car models and years

Supported car models and years are:

• Audi A3	2 nd series	2003-2012
• Audi A3	3 rd series	2013
• Audi A4	3 rd series	2005-2008
• Audi A4	4 th series	from 2008
• Audi A5		from 2007
• Audi A6	3 rd series	2004-2011
• Audi A6	4 th series	from 2011
• Audi A8	2 nd series	from 2002
• Audi TT	1 st series	2001-2006
• Audi TT	2 nd series	from 2006
• Audi R8		from 2008

2 CAN bus connection

Audi cars feature a bus communication protocol based on CAN on the ECU.

CAN connection cables can be found in different positions: behind the instrument cluster, near the steering column, behind the fuse box or the glove box inside the main wiring loom. Regardless of the stock ECU installed on your car, colours of the cables you need to connect to AiM devices are always the same, they are twisted and here below they are indicated.

Pin function	Audi ECU cable colour	AiM cable label
CAN High	Orange/Black	CAN+
CAN Low	Orange/Brown	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 configuration are "ECU Manufacturer and "ECU Model". The car models listed in this document can communicate using different protocols, here below explained:

- ECU manufacturer: "Audi" ECU model "CAN_PQ35_P5" (**recommended**)
- ECU manufacturer "Bosch" ECU model: "Audi"

4

Available channels

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

4.1

"Audi" "CAN_PQ35_P5" (recommended) protocol

Channels received by AiM devices connected to "Audi" "CAN_PQ35_P5" protocol are:

ID	CHANNEL NAME	FUNCTION
ECU_1	MO1_MO_M_EX	Engine moment
ECU_2	MO1_RPM	RPM
ECU_3	MO1_PEDAL	Pedal position
ECU_4	MO2_BLS	Brake light signal
ECU_5	SHIFT_DOWN	Tiptronic-Tip-Down
ECU_6	SHIFT_UP	Tiptronic-Tip-Up
ECU_7	GE1_ACTIVE	Gear shifting active
ECU_8	GE1_LEV_POS	Gear lever position
ECU_9	GE1_SOLL_MO	Required internal moment
ECU_10	V_WH_FL	Front left wheel speed
ECU_11	V_WH_FR	Front right wheel speed
ECU_12	V_WH_RL	Rear left wheel speed
ECU_13	V_WH_RR	Rear right wheel speed
ECU_14	STEER_SPEED	Steering speed
ECU_15	GE2_SYNCDZ	Angular speed
ECU_16	ABS_SWITCH	ABS switch
ECU_17	ASR_SWITCH	ASR switch
ECU_18	T_OIL	Oil temperature
ECU_19	ABS_OFF	ABS off



ECU_20	ASR_OFF	ASR off
ECU_21	FAULT_LAMP	Fault lamp
ECU_22	BOOST	Boost pressure
ECU_23	ASR_ACTIVE	ASR active
ECU_24	ABS_ACTIVE	ABS active
ECU_25	ASR_MOM_FAST	Fast ASR reduction
ECU_26	ASR_MOM_SLOW	Slow ASR reduction
ECU_27	DES_TORQUE	Desired engine torque
ECU_28	LIMITER	Speed limiter
ECU_29	GEAR	Engaged gear
ECU_30	ENG_TORQ_LOSS	Engine torque loss
ECU_31	BLINKER_LEFT	Left turning light
ECU_32	BLINKER_RIGHT	right turning light
ECU_33	STEER_ANGLE	steering angle
ECU_34	STEER_SIGN	steering sign
ECU_35	STEER_ERR	steering error
ECU_36	SUP_POW_STEER	Supplied power steering
ECU_37	TSTEER	Power steering temperature
ECU_38	TAIR	Intake air temperature
ECU_39	T_WATER	Engine coolant temperature
ECU_40	BRAKE_PRESS	Brake pressure
ECU_41	OIL_TEMP_2	Oil temperature 2

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.

4.2

"Bosch" "Audi" protocol

Channels received by AiM devices connected to "Bosch" "Audi" protocol are:

ID	CHANNEL NAME	FUNCTION
ECU_1	AUDI_RPM	RPM
ECU_2	AUDI_SPEED1	Vehicle speed
ECU_3	AUDI_WATERTEMP	Engine coolant temperature
ECU_4	AUDI_ENGINEMOMENT	Engine Torque
ECU_5	AUDI_AIRTEMP	Intake air temperature
ECU_6	AUDI_GASPERC	Pedal position
ECU_7	AUDI_BRAKEPRESS	Brake pressure
ECU_8	AUDI_SPEED2	Vehicle speed
ECU_9	AUDI_SPEEDDASH	Speed
ECU_10	AUDI_ACCLAT	Lateral acceleration
ECU_11	AUDI_STEERMOMENT	Steering Torque
ECU_12	AUDI_ATMTEMP	Atmospheric Temperature
ECU_13	AUDI_OILTEMP	Oil Temperature
ECU_14	AUDI_FRLF_SPEED	Front left wheel speed
ECU_15	AUDI_FRRG_SPEED	Front right wheel Speed
ECU_16	AUDI_RRLF_SPEED	Rear left wheel Speed
ECU_17	AUDI_RRRG_SPEED	Rear right wheel Speed
ECU_18	AUDI_YAWRATE	Gyroscope
ECU_19	AUDI_STEERSPEED	Steering speed
ECU_20	AUDI_STEERANGLE	Steering angle
ECU_21	AUDI_BRAKE	Brake
ECU_22	AUDI_FUEL	Fuel level
ECU_23	AUDI_GEAR	Engaged gear
ECU_24	AUDI_ENGOILT	Engine oil temperature
ECU_25	AUDI_TPS	Throttle position



ECU_26	AUDI_CLUTCH	Switch Clutch
ECU_27	AUDI_BOOST_PRESS	Boost pressure
ECU_28	AUDI_ENGINE_MOMENT	Engine torque
ECU_29	AUDI_SHIFTING_ACTIVE	Shift check
ECU_30	AUDI_TIP_TRONIK_DW	Tiptronic down
ECU_31	AUDI_TIP_TRONIK_UP	Tiptronic up

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.