

AiM Infotech

Aprilia RSV4, RS 660, RS 457
MY2021 MY2023 MY2025

Release 1.00





1

Models and years

This manual explains how to connect Aprilia RSV4 ECU to AiM devices. Supported models and years, including derived versions Tuono and Tuareg are:

- | | |
|------------------|-------------|
| • RSV4 MY 2021 | 2021 – 2022 |
| • RSV4 MY 2023 | 2023 – 2024 |
| • RSV4 MY 2025 | from 2025 |
| • RS 660 MY 2020 | 2020 – 2024 |
| • RS 660 MY 2025 | from 2025 |
| • RS 457 MY 2024 | from 2024 |

Warning: for these models/years AiM recommends not to remove the stock dash. Doing so will disable some of the bike's functions or safety controls. AiM Tech srl will not be held responsible for any consequences that may result from the replacement of the original instrumentation cluster.

2

Wiring connection

Aprilia RS V4/660/457 MY21/MY23/MY25 feature a bus communication protocol based on CAN that can be reached through the OBDII diagnostic connector (6 ways red JST female – OBDII EURO 5 A), located under the bike seat.

Below is indicated its pinout and connection table.



JST connector pin	Function	AiM cable	AiM color cable
2	CAN High	CAN +	White
3	Ground	GND	Black
4	V Battery	V Batt	Red
5	CAN Low	CAN -	Blue
6	K-Line	K-Line	Orange or Blue

AiM supplies the following dedicated cables with part numbers:

Solo 2DL / XLog	Cable length 1600 mm	Power + CAN bus	V02589130
EVO6L / EVO4S / ECULog	Cable length 400 mm	CAN bus only	V02585200

3

Configuration with Race Studio 3

Before connecting the ECU to AiM device set this up using AiM Race Studio 3 software. The parameters to select in the device configuration are:

- ECU manufacturer: **APRILIA**
- ECU Model: **RSV4 EU5** (RaceStudio 3 only)

4

“APRILIA – RSV4 EU5” protocol

Channels received by AiM devices configured to "Aprilia - RSV4 EU5" protocol are:

CHANNEL NAME	FUNCTION
RPM	Engine RPM
Gear	Engaged gear
QS Ready	Quick shift ready
Clutch Sw	Clutch switch
Hand Throttle	Hand throttle position
Bike Speed	Bike speed
Speed Rear	Rear wheel speed
Speed Front	Front wheel speed
Lon Acc	Longitudinal acceleration
Lat Acc	Lateral acceleration
VertAcc	Vertical acceleration
Roll Rate	Roll rate
Yaw Rate	Yaw rate
Pitch Angle	Pitch angle
Roll Angle	Roll angle
RollRateStat	Roll rate status



1=	IMU not available
2=	Signal failure
3=	Init running
Air Temp	Air temperature
Oil Temp	Oil temperature
Engine Temp	Engine coolant temperature
Brake Press	Brake pressure
Brake Front Sw	Front brake switch
Brake Rear Sw	Rear brake switch
TInj Prog1	Injection time program 1
Odometer	Odometer
Battery Volt	Battery voltage
HiBeam	High beam
Right Dir	Right direction
Left Dir	Left direction
Tipover Sw	Tip over switch
Fuel Cons	Fuel consumption
Fuel Level	Fuel level
Fuel Low	Fuel low
Fuel Res St	Fuel rest status
TracDiag	Traction diagnostic
Engine Map	Engine map selected
Riding Mode	Riding mode
TC Slip Lp	Traction control slip
Torque Red	Torque reduction
APRC Lamp Status	APRC Lamp status
AWC	AWC – Aprilia Wheel control
AWC Level	AWC – Aprilia Wheel control level
ATC	ATC – Aprilia Traction Control
ATC Level	ATC – Aprilia Traction Control level
ABS	ABS
Level ABS	Level ABS



ABS Lamp St	ABS Lamp status
ABS Level St	ABS level status
AEM	AEM – Aprilia Engine MAP
ALC	ALC – Aprilia Launch control
ALC Enabled	ALC – Aprilia Launch control enabled
ALC Level	ALC – Aprilia Launch control level
AEB	AEB – Aprilia Engine braking
Engine Brake	Engine Brake
Pit Enabled	Pit enabled
Pit Speed	Pit speed
AWC selector	AWC – Aprilia wheel control selector
RSV4 SEL MAP	RSV4 selected MAP
Oil Press High	Oil pressure high
Side Stand Sw	Side stand switch
Urg serv	Urgent service
1=	RSV4 Urgent service
3=	RSV4 AQS on
MIL	Malfunction indicator lamp
ECU Alarm	ECU Alarm

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