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EURO 5 Standard Diagnostic Protocol CAN Bus / K line From 2020

Release 1.00



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1
Models and years

This document explains how to connect AiM devices to the vehicle On Board Diagnostics (OBDII) data stream.
Supported models are all motorbikes and mopeds produced after 2020, or in any case those declared as Euro5 compliant.

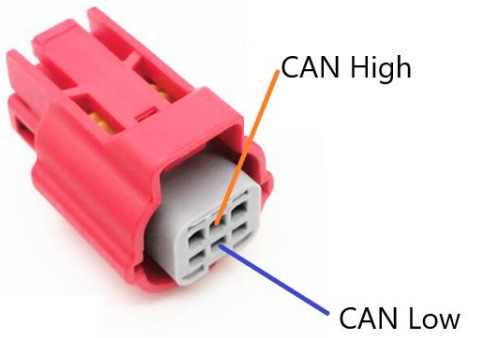
2
Wiring connection

New motorcycle models, from year 2020, need to meet stringent 'Euro 5' emissions laws, this also means they must provide a standard communication protocol and a standard connection.
The new On Board Diagnostic Connector for motorcycles and mopeds (OBD - ISO19689:2016) is what you will now find on most of these bikes and it is also described here following.

The red JST 6 pin female connector is generally located under the bike seat or close to the instrumentation cluster.
The standard OBDII protocols used through it, are based on CANbus or on K Line.

Below you will find the connection table and the matching male connector.





JST connector	Function	AiM cable	AiM color cable
2	CAN High	CAN+	White
3	Ground	GND	Black
4	Voltage Battery	V Battery	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	Cable length 1600 mm	**V02589130**
EVO 4S	Cable length 400 mm	**V02585200**

3
Race Studio configuration

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

- ECU manufacturer: **OBDII**
- ECU Model: **CAN** (CANbus)
  ISO9141-2 (K-Line)
  KWP2000_FAST_INIT (K-line)

4
"OBDII" Protocols

Channels received by AiM devices configured with "OBDII" protocols are:

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

Technical note: not all data channels outlined in the ECU template are validated for each manufacturer's model or variant; each manufacturer can choose which channels should be available to standard diagnostic tools.