AIM Infotech

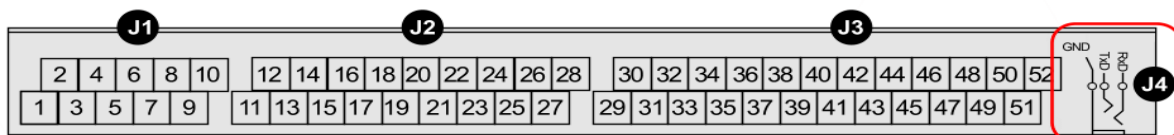Autronic SM2
V190, V191, V193, V195 ECU

Release 1.03

1
Supported models

This document explains how to connect AiM devices to the Engine Control Unit (ECU) datastream. Supported models are:

- SM2 V190
- SM2 V 191
- SM2 V193
- SM2 V195

2
Wiring connection

Autronic - SM2 ECU feature a serial communication protocol on the J4 ECU front connector as shown here below.

The ECU comes with a spiral cable ending with a Jack on one side and alternatively a DB9 female or a DB25 female on the other side. The Jack input of the ECU to be used is shown here above. The spiral cable is used to program the ECU as well as to communicate with external devices, like AIM ones.
Here below the spiral cable ending with a DB9 female connector is shown.

DB9 Female connector

Jack connector

Here follow technical drawing of the two possible cables as well as connection tables.
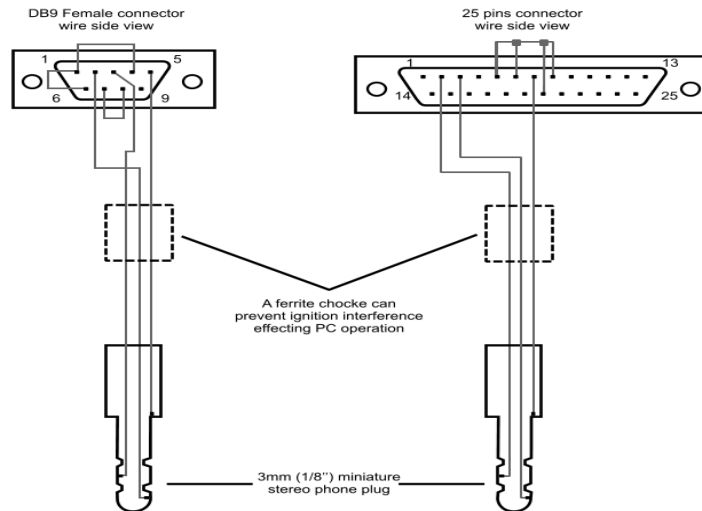
DB9 connector pin	Pin function	AiM cable
5	GND	GND
2	RS232TX	RS232RX/ECU RS232TX

DB25 connector pin	Pin function	AiM cable
7	GND	GND
3	RS232TX	RS232RX/ECU RS232TX

Please note:
AiM wiring harnesses supplied after September 2018 have the following labels:
ECU RS232TX (white) to be connected to **ECU TX** pin
ECU RS232RX (blue) to be connected to **ECU RX** pin (if indicated in the connection table above)
AiM wiring harnesses supplied before September 2018 have the following labels:
RS232RX (white) to be connected to **ECU TX** pin
RS232TX (blue) to be connected to **ECU RX** pin (if indicated in the connection table above)

Please note: ECU RS232RX (or RS232TX) is not to be connected.

3
Race Studio configuration

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

- ECU manufacturer: **Autronic**
- ECU Model: **"SM2_V190_1_SMC_V191"** for Autronic SM2 V190 or V191 ECU
                            "SM2_V193/V195" for Autronic SM2 V193 or V195 ECU (Only RS2)

4
protocols

Channels received by AiM devices change according to the selected protocol

4.1
"Autronic – SM2_V190_1_SMC_V191" protocol

Channels received by AiM devices configured with "Autronic – SM2_V190/1/SMC_V191" protocol are:

CHANNEL NAME	FUNCTION
AUTR_RPM	RPM
AUTR_SPEED	Vehicle speed
AUTR_DRVWHEEL_SPD	Driving wheel speed
AUTR_WATER_TEMP	Engine coolant temperature
AUTR_CHARGE_TEMP	Air/Fuel mix temperature
AUTR_INTAKEAIR_TEMP	Intake air temperature
AUTR_EXHAUST_PRESS	Exhaust pressure
AUTR_MANIF_PRESS	Manifold air pressure
AUTR_THROTPOS	Throttle position

AUTR_INJECT_TIME	Injection time
AUTR_IGNIT_ANG	Ignition angle
AUTR_AF_RATIO	Air/Fuel ratio
AUTR_BATT_VOLT	Battery supply

4.2
"Autronic - SM2_V193/V195" protocol

Channels received by AiM devices configured with "Autronic - SM2_V193/V195" protocol are:

CHANNEL NAME	FUNCTION
AUTR2_RPM	RPM
AUTR2_SPEED	Vehicle speed
AUTR2_DRVWHEEL_SPD	Driving wheel speed
AUTR2_WATER_TEMP	Water temperature
AUTR2_CHARGE_TEMP	Air/fuel mix temperature
AUTR2_INTAKEAIR_TEMP	Intake air temperature
AUTR2_EXHAUST_PRESS	Exhaust gas pressure
AUTR2_MANIF_PRESS	Manifold air pressure
AUTR2_THROTPOS	Throttle position
AUTR2_INJECT_TIME	Injection time
AUTR2_IGNIT_ANG	Ignition angle
AUTR2_AF_RATIO	Air/Fuel ratio
AUTR2_BATT_VOLT	Battery supply
AUTR2_TEMPNTC1	Custom temperature 1
AUTR2_TEMPNTC2	Custom temperature 2
AUTR2_TEMPNTC3	Custom temperature 3
AUTR2_TEMPNTC4	Custom temperature 4