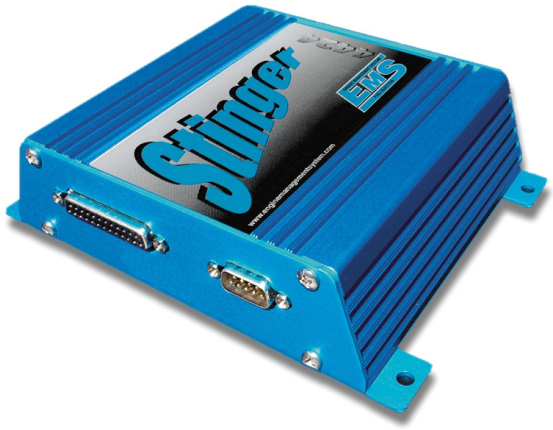
AiM Infotech

EMS Stinger ECUs

Release 1.00



ECU

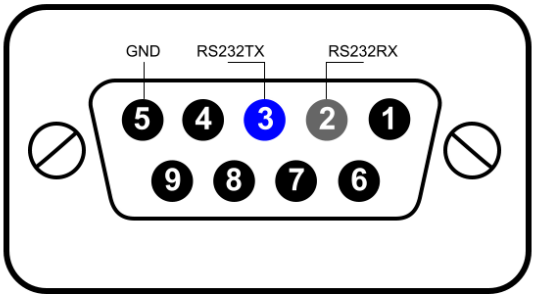
1 Supported Models

This tutorial explains how to connect EMS Stinger ECU to AIM devices. Supported ECU models are:

- EMS Stinger V1
- EMS Stinger V2
- EMS Stinger V3
- EMS Stinger V4
- EMS Stinger V8860 baud rate 9600
- EMS Stinger V8860 baud rate 19200

2 Wiring connections

EMS Stinger ECUs feature a serial communication protocol on a DB9 female connector placed front right on the ECU. Here below is DB9 connector pinout as well as connection table.



DB9 connector pin	Pin function	AiM cable label
3	RS232TX	RS232RX
2	RS232RX	RS232TX
5	GND	GND

3
AiM device configuration

Before connecting the ECU to AiM device set it up using AiM Race Studio software. The parameters to select in the device configuration changes according to the ECU you are using. Select:

- ECU manufacturer: "EMS"
- ECU Model:
    - "Stingerv123" for EMS Stinger V1, V2 and V3 ECU
    - "Stingerv4" for EMS StingerV4 ECU
    - "Stingerv8860_9600baud" for EMS Stinger 8860 with baud rate 9600
    - "Stingerv8860_19200baud" for EMS Stinger 8860 with baud rate 19200

4
Available channels

Channels received by AIM devices connected to "EMS" "Stinger" ECUs changes according to the selected protocol.

4.1
"EMS" "Stingerv123" protocol

Channels received by AIM devices connected to "EMS" "Stingerv123" protocol are

ID	CHANNEL NAME	FUNCTION
ECU_1	EMS_ENGINESPD	Vehicle Speed
ECU_2	EMS_MAINPRESS	Manifold air pressure
ECU_3	EMS_AFR	Air/Fuel ratio
ECU_4	EMS_IGN_TIMING	Ignition timing
ECU_5	EMS_THROTTLE	Throttle position sensor
ECU_6	EMS_INJ_MS	Injection measure
ECU_7	EMS_BATTVOLT	Battery supply
ECU_8	EMS_ENGTEMP	Engine temperature
ECU_9	EMS_AIRTEMP	Intake air temperature

4.2
"EMS" "Stingerv4" protocol

Channels received by AIM devices connected to "EMS" "Stingerv4" protocol are

ID	CHANNEL NAME	FUNCTION
ECU_1	EMS_ENGINESPD	Speed
ECU_2	EMS_MAINPRESS	Manifold air pressure
ECU_3	EMS_THROTTLE	Throttle position sensor
ECU_4	EMS_AFR1	Air/Fuel ratio 1
ECU_5	EMS_AFR2	Air/Fuel ratio 2
ECU_6	EMS_AIRTEMP	Intake air temperature
ECU_7	EMS_ENGTEMP	Engine temperature
ECU_8	EMS_IGN_TIMING	Ignition timing
ECU_9	EMS_INJ_US	Injection time
ECU_10	EMS_STAGEDINJ	Staged injection
ECU_11	EMS_BATTERY	Battery supply

4.3 "EMS" "Stingerv8860_9600baud" protocol

Channels received by AIM devices connected to "EMS" "Stingerv8860_9600baud" protocol are

ID	CHANNEL NAME	FUNCTION
ECU_1	EMS_ENGINESPD	Vhicle speed
ECU_2	EMS_MAINPRESS	Manifold air pressure
ECU_3	EMS_THROTTLE	Throttle position sensor
ECU_4	EMS_AFR1	Air/Fuel ratio 1
ECU_5	EMS_AFR2	Air/Fuel ratio 2
ECU_6	EMS_AIRTEMP	Intake air temperature
ECU_7	EMS_ENGTEMP	Engine temperature
ECU_8	EMS_IGN_TIMING	Ignition timing
ECU_9	EMS_INJ_US	Injection time
ECU_10	EMS_STAGEDINJ	Staged injection
ECU_11	EMS_BATTERY	Battery voltage

4.4 "EMS" "Stingerv8860_19200baud" protocol

Channels received by AIM devices connected to "EMS" "Stinger_19200baud" protocol are

ID	CHANNEL NAME	FUNCTION
ECU_1	EMS_ENGINESPD	RPM
ECU_2	EMS_MAINPRESS	Manifold air pressure
ECU_3	EMS_THROTTLE	Throttle position sensor
ECU_4	EMS_AFR1	Air/Fuel Ratio 1
ECU_5	EMS_AFR2	Air/Fuel Ratio 2
ECU_6	EMS_AIRTEMP	Intake air temperature
ECU_7	EMS_ENGTEMP	Engine temperature
ECU_8	EMS_IGN_TIMING	Ignition timing
ECU_9	EMS_INJ_US	Injection time
ECU_10	EMS_STAGEDINJ	Staged injection
ECU_11	EMS_BATTERY	Battery supply
ECU_12	EMS_ANALOG_IN1	Analog input 1
ECU_13	EMS_ANALOG_IN2	Analog input 2
ECU_14	EMS_ANALOG_IN3	Analog input 3
ECU_15	EMS_ANALOG_IN4	Analog input 4
ECU_16	EMS_ANALOG_IN5	Analog input 5
ECU_17	EMS_ANALOG_IN6	Analog input 6
ECU_18	EMS_ANALOG_IN7	Analog input 7
ECU_19	EMS_ANALOG_IN8	Analog input 8
ECU_20	EMS_ANALOG_IN9	Analog input 9