



## AIM Infotech

# Megasquirt MS2 Extra Microsquirt

Release 1.01

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ECU



# 1

## Supported models

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This tutorial explains how to connect Megasquirt and Microsquirt ECUs to AiM devices. Supported models are:

- Megasquirt MS2 Extra
- Microsquirt

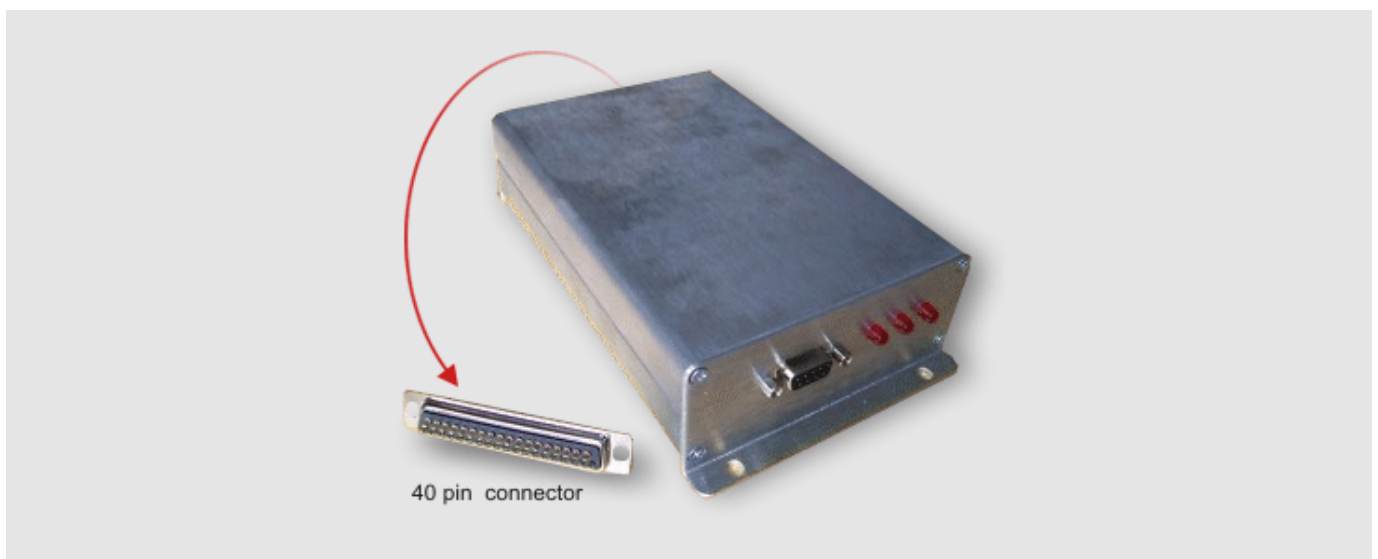
# 2

## Wiring connection

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Megasquirt MS2 Extra and Microsquirt ECUs feature a bus communication protocol based on CAN.

Microsquirt CAN bus is on its 35 pins connector while Megasquirt MS2 Extra CAN bus is on the 40 pins male connector shown here below and on the DB37 connector available on its wiring.



## 2.1 Connection of Megasquirt MS2 Extra

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To connect Megasquirt MS2 Extra to AIM devices use the 40 pins connector or the DB37 connector available on the ECU wiring. Here below are connection tables.

ECU 40 pins connector	Pin function	AIM cable label
6	CAN High	CAN+
11	CAN Low	CAN-

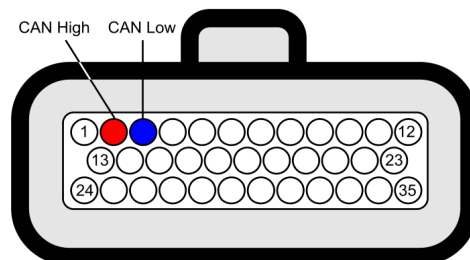
  

DB37 connector	Pin function	AIM cable label
3	CAN High	CAN+
4	CAN Low	CAN-

## 2.2 Connection of Microsquirt

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To connect Microsquirt to AiM devices use the 35 pins Ampseal connector. Here below is connector pinout and connection table:



Ampseal connector pin	Pin function	AiM cable
2	CAN High	CAN+
3	CAN Low	CAN-

## 3

# AiM device configuration

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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 "Megasquirt"
- ECU Model "MS2\_CAN\_BUS"

## 4

# Available channels

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Channels received by AiM device connected to "Megasquirt" "MS2\_CAN\_BUS" protocol are:

<b>ID</b>	<b>CHANNEL NAME</b>	<b>FUNCTION</b>
ECU_1	MS2_RPM	RPM
ECU_2	MS2_TPS	Throttle Position Sensor
ECU_3	MS2_BATT	V battery
ECU_4	MS2_MAP	Manifold air pressure
ECU_5	MS2_BARO	Barometric pressure
ECU_6	MS2_ADVANCE	Spark advance
ECU_7	MS2_KNOCK	Knock sensor
ECU_8	MS2_LAMBDA1	Lambda sensor 1
ECU_9	MS2_LAMBDA2	Lambda sensor 2
ECU_10	MS2_EGO_CORR_1	Exhaust gas oxygen correction 1
ECU_11	MS2_EGO_CORR_2	Exhaust gas oxygen correction 2
ECU_12	MS2_AIR_CORR	Air correction
ECU_13	MS2_WARM_ENR	Warm up enrichment
ECU_14	MS2_GAMMA_ENR	Gamma enrichment
ECU_15	MS2_TPSFUELCUT	Throttle Position Sensor fuel cut
ECU_16	MS2_BARO_CORR	Barometric pressure correction



ECU_17	MS2_FUEL_LOAD1	Fuel Load 1
ECU_18	MS2_FUEL_LOAD2	Fuel Load 2
ECU_19	MS2_FUEL_CORR	Fuel correction
ECU_20	MS2_EGO_V1	Exhaust gas oxygen voltage 1
ECU_21	MS2_EGO_V2	Exhaust gas oxygen voltage 2
ECU_22	MS2_IGN_LOAD1	Ignition load 1
ECU_23	MS2_IGN_LOAD2	Ignition load 2
ECU_24	MS2_ACC_ENRICH	Acceleration enrichment
ECU_25	MS2_VE_CURR1	Current VE value in use 1
ECU_26	MS2_VE_CURR2	Current VE value in use 2
ECU_27	MS2_IAC_STEP	Intake air temperature correction step
ECU_28	MS2_COLD_ADV	Cold advance
ECU_29	MS2_MAT	Manifold air temperature
ECU_30	MS2_ECT	Engine cooling temperature
ECU_31	MS2_ENGINE	Engine status
ECU_32	MS2_KNOCK_RET	Knock retard
ECU_33	MS2_MAF	Mass air flow
ECU_34	MS2_DWELL	Coil dwell time
ECU_35	MS2_EGT_6	Exhaust gas temperature 6
ECU_36	MS2_EGT_7	Exhaust gas temperature 7
ECU_37	MS2_VBO2_EN1	VBO2 Enable 1
ECU_38	MS2_VBO2_EN2	VBO2 Enable 2
ECU_39	MS2_IDLE_PWM	Power width modulation
ECU_40	MS2_PW1	Power width 1
ECU_41	MS2_PW2	Power width 2
ECU_42	MS2_ADC6	Analog to digital counter 6
ECU_43	MS2_ADC7	Analog to digital counter 7
ECU_44	MS2_BOOST_DUTY	Boost duty cycle
ECU_45	MS2_SYNCR	Lost sync reason
ECU_46	MS2_INJ_ADV1	Injection advance 1
ECU_47	MS2_INJ_ADV2	Injection advance 2
ECU_48	MS2_STATUS1	ECU Status1
ECU_49	MS2_STATUS2	ECU Status2