AiM Infotech

MaxxECU – CAN

Release 1.05

1
Models

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

- MINI
- STREET
- SPORT
- V1
- RACE
- PRO

Warning: compatibility between MaxxECU ECUs and AiM devices depends on the ECU firmware version: in order to be able to communicate through CAN, MaxxECU ECUs firmware version **1.67** or newer is required.

2
Software configuration

For MaxxECU ECUs to correctly communicate with AiM device, it is necessary to set them up using the dedicated software (MaxxECU MTune; image below). From the **1.67** ECU firmware version it is possible to program the ECU CAN output This firmware updating can be downloaded from Maxxecu website directly.

Open the Configuration drop-down menu **(1)**, then click "CAN Settings" **(2)**. From the Data Transmission box **(3)**, set the MaxxECU output protocol as "Enabled" and CAN1 Bitrate as "500kbit (default)".
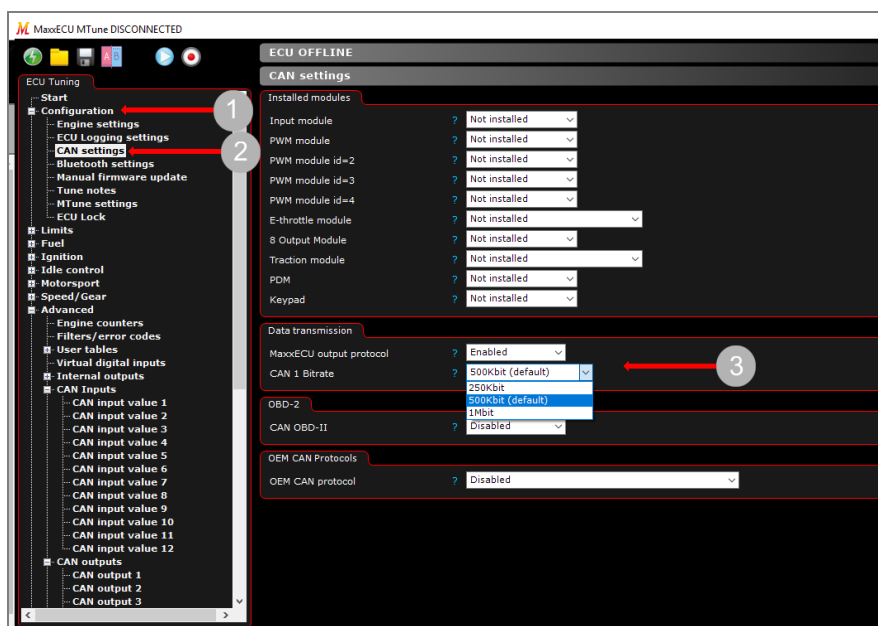
3
Wiring connection

These models feature a bus communication protocol based on CAN, accessible through the connectors placed on the ECUs main side. For this installation refer to the following pinout of each ECU plug (connector – front view).
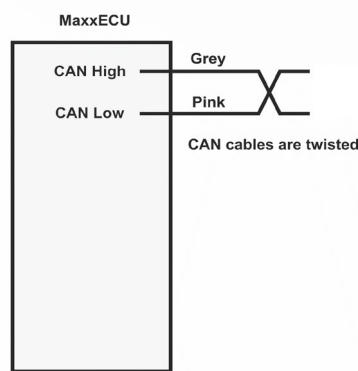
- **MaxxECU MINI: 32pins connector (on the left)**

Pin number	Function	Cable color
E3	CAN L	Pink
E4	CAN H	Grey

- **MaxxECU STREET/SPORT/V1/RACE/PRO: 48pins connector 1 (red arrows)**

Pin number	Function	Cable color
E1	CAN H	Grey
E2	CAN L	Pink

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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 AiM device configuration are:

- ECU manufacturer: **MAXXECU**
- ECU Model: **CAN**

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"MAXXECU – CAN" protocol

Channels received by AiM devices configured with "MaxxECU – CAN" protocol are:

CHANNEL NAME	FUNCTION
RPM	Engine RPM
Gear	Engaged gear
VehSpeed	Vehicle speed
DrvSpd	Wheel drive speed
UdrSpd	Undriven wheel average speed
Acc Right	Lateral acceleration
Acc Up	Vertical acceleration
Acc forward	Inline acceleration
Rev Lim RPM	RPM revolution limiter
EngCoolTemp	Engine coolant temperature
ExhGasT6	Exhaust gas temperature 6
ExhGasT1	Exhaust gas temperature 1
ExhGasT2	Exhaust gas temperature 2
ExhGasT4	Exhaust gas temperature 4
ExhGasT5	Exhaust gas temperature 5
ExhGasT8	Exhaust gas temperature 8

ExhGasHigh	Exhaust gas temperature max value
ExhGasDiff	Exhaust gas between highest and lowest EGT
ExhGasT3	Exhaust gas temperature 3
IntkAirTemp	Intake air temperature
ExhGasT7	Exhaust gas temperature 7
Oil temp	Oil temperature
Transmission tem	Transmission temperature
Differential tem	Differential temperature
Cpu Tmp	ECU temperature
Oil pressure	Oil pressure
Fuel pressure 1	Fuel pressure 1
Boost Target	Boost pressure target
Wastegate pres	Wastegate pressure
Coolant pressure	Coolant pressure
BaroPr	Barometric pressure
ManifPres	Manifold air pressure
Knock correction	Knock angle correction
VVT int cam 1P	VVT intake cam 1 position
VVT inc cam 2P	VVT intake cam 2 position
VVT ex cam 2P	VVT exhaust gas cam 2 position
VVT in cam TP	VVT intake cam target position
VVT exhaust cam	VVT exhaust gas cam 1 postion
IgnAng	Ignition angle
VVT ex cam TP	VVT exhaust gas target position
ThrotPos	Throttle position sensor
FuelTrim	Fuel trim
LaCorB	Lambda correction B
FuelCut	Fuel cut
FuelDuty	Fuel duty charge
IgnCut	Ignition cut
TotIgn	Total ignition percentage adjustment
Ethanol	Ethanol percentage

LaCorA	Lambda correction A
TcLim	Traction control limit
TrgSlp	Target slip
WheSlp	Wheel slip
FuelPul	Fuel pulse width
VBatt	Battery voltage
Virt fuel tank	Virtual fuel tank
LambA	Lambda cylinder bank A
LambB	Lambda cylinder bank B
Lambda target	Lambda target value
Lambda	Lambda value
KnockL All peak	Knock level all peak
User ch2	User channel 2
Active boost	Active boost tab
Active tune Sel	Active tune selected
User ch9	User channel 9
User ch10	User channel 10
User ch11	User channel 11
User ch12	User channel 12
SPARE 04	Custom channel 4
SPARE 03	Custom channel 3
Last knock cylin	Last knock cylinder
Knock count	Knock counter
User ch3	User channel 3
SPARE 01	Custom channel 1
SPARE 02	Custom channel 2
Analog2	Analogue 2
User ch8	User channel 8
User ch4	User channel 4
User ch5	User channel 5
User ch6	User channel 6
User ch7	User channel 7

FirmVer	Firmware version
Err	Number of active error codes
Sync	Nr. of times the ECU detected errors in engine position sensor
Analog1	Analogue channel 1
Analog3	Analogue channel 3
Analog4	Analogue channel 4
BoostDty	Boost duty
User ch1	User channel 1
BITMASK1	Numeric Status
1(low)	Shift cut active
2	Rev limit active
3	Anti-lag active
4	Launch control active
5	Traction pw lim
6	Throttle blip ac
7	AC idle up act
8(high)	Knock detected
BITMASK2	Numeric status
1(low)	Brake pedal act
2	Clutch pedal act
3	Speed limit act
4	GP limiter act
5	User cut act
6	ECU is logging
7	Nitrous active
8(high)	Spare bit

Technical note: not all data channels outlined in the ECU template are validated: in order to be able to obtain last 8 listed channels, MaxxECU ECU firmware version 1.79 or newer is required.