AiM Infotech

MaxxECU – CAN

Release 1.04

1
Models

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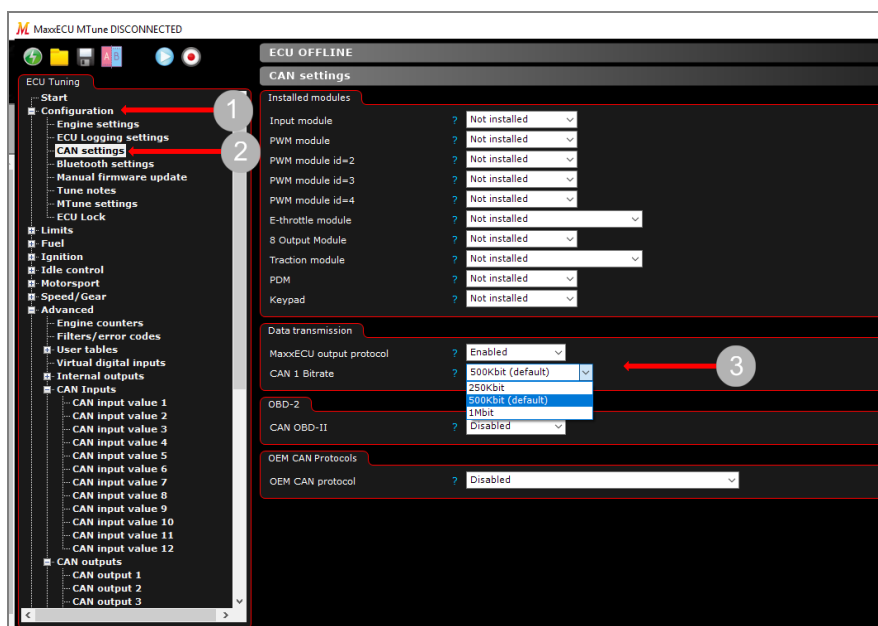Supported models are:

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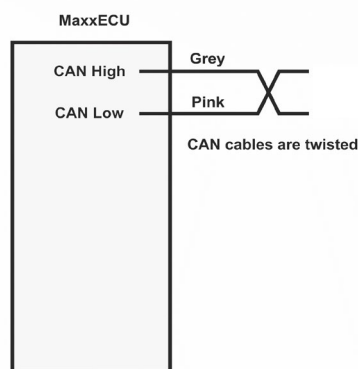
Open the Configuration drop-down menu **(1)**, then click "CAN Settings" **(2)**. From the Data Transmission box **(3)**, set the MaxxECU output protocol as "Enabled" and CAN1 Bitrate as "500kbit (default)".

3
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

4
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**

5
"MaxxECU – CAN" protocol

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

CHANNEL NAME	FUNCTION
RPM	RPM
THROTTLE	Throttle position sensor
ManifPres	Manifold air pressure
Lambda	Lambda average value
LambA	Lambda cylinder bank A
LambB	Lambda cylinder bank B
IgnAng	Ignition angle
IgnCut	Ignition cut
FuelPut	Fuel pulse width
FuelDut	Fuel duty charge
FuelCut	Fuel cut
VehSpeed	Vehicle speed
UdrSpd	Undriven wheel average speed
DrSpd	Driven wheel average speed
WheSlp	Wheel slip
TrgSlp	Target slip

TcLim	Traction control limit
LaCorA	Lambda correction bank A
LaCorB	Lambda correction bank B
FirmVer	Firmware version
VBatt	Battery supply
BaroPr	Barometric pressure
IntkAirTemp	Intake air temperature
EngCoolTemp	Water temperature
FuelTrim	Fuel trim
Ethanol	Ethanol percentage
TotIgn	Total ignition percentage adjustment
ExhGasT1	Exhaust gas temperature 1
ExhGasT2	Exhaust gas temperature 2
ExhGasT3	Exhaust gas temperature 3
ExhGasT4	Exhaust gas temperature 4
ExhGasT5	Exhaust gas temperature 5
ExhGasT6	Exhaust gas temperature 6
ExhGasT7	Exhaust gas temperature 7
ExhGasT8	Exhaust gas temperature 8
ExhGasHigh	Exhaust gas temperature max value
ExhGasDiff	Difference between highest and lowest EGT
CpuTmp	ECU temperature
Err	Number of active error codes
Sync	Nr. of times the ECU detected errors in engine position sensor
Analog1	Analog channel 1
Analog 2	Analog channel 2
Analog 3	Analog channel 3
Analog 4	Analog channel 4
Gear	Engaged gear
BoostDty	Boost duty
Spare1	Custom channel 1
Spare2	Custom channel 2

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.