AiM Infotech

MBE 967/970 ECU

Release 1.01

1 Supported models

This tutorial explains how to connect MBE ECUs to AiM devices. Supported models are:

- MBE 967
- MBE 970

2 Software setup

MBE 967 and 970 ECUs come with EasyMap software. To allow them a correct communication with AiM devices set them up as follows:

- Connect the ECU to your PC and power it connecting ECU pin 13 at 12V and ECU pin 6 – or other GND pin – to GND.
- Run Easy Map and follow this path:
    - Data –>Get Data
    - "Select Parameter" window appears –> open "Data Logging" directory
    - select "Data Logger Link";
    - in "Data Source" options select Select "ECU device"
    - press "OK"
- EasyMap reads now the information from the ECU and opens a new window to configure the communication

- all parameters needs configuration as in the following table:

Data Logger Link:	choose [Transmitting at 19200]
RPM:	choose [4,00]

Parameter	**Scaling**
1: choose [Engine Speed]	Choose 16 bit
2: choose [Ignition]	Choose 8 bit
3: choose [Injection Time]	Choose 16 bit
4: choose [Throttle Angle]	Choose 8 bit
5: choose [Coolant Temp]	Choose 8 bit
6: choose [Air Temp]	Choose 8 bit
7: choose [Baro Pressure]	Choose 8 bit
8: choose [Lambda]	Choose 8 bit
9: choose [Ri]	Choose 16 bit
10: choose [Engine Oil Pressure]	Choose 8 bit
11: choose [Fuel Pressure]	Choose 8 bit
12: choose [Water Pressure]	Choose 8 bit
13: choose [Engine Oil Temp]	Choose 8 bit
14: choose [Gearbox Oil Temp]	Choose 8 bit
15: choose [Boost Pressure]	Choose 8 bit
16: choose [Gear Position]	Choose 8 bit

Please note: data logging configuration with EasiMap V5.0 software is intended for expert users only. Refer to www.mbesystems.com for further information.

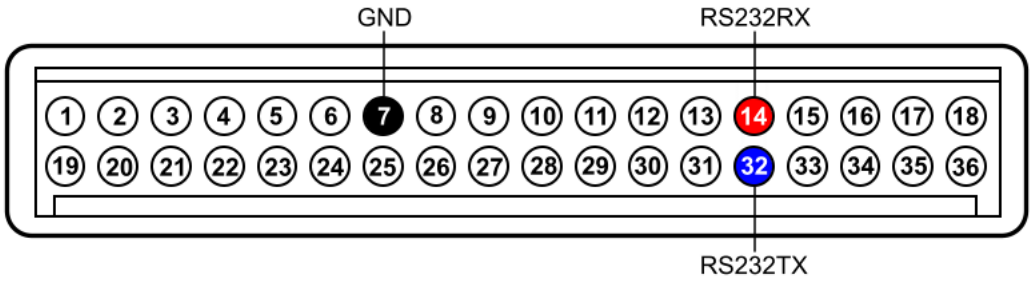
- once all parameters configured press "Send" and choose "ECU Device" if requested; the configuration is stored in ECU memory
- close configuration window and quit the program
- before connecting MBE ECU to AiM device enable "Broadcast Mode" ensuring a nominally zero voltage (or open circuit) on fuel trim and ignition trim inputs.

3
Wiring connection

MBE 967 and MBE 970 ECUs feature a serial communication protocol and they connects differently to AiM devices as explained below.

3.1
Connection of MBE 967

MBE 967 is equipped with a 36 pins front connector. Here below is its pinout as well as connection scheme.



Data Output connector pin	Pin function	AiM cable
32	RS232TX	RS232RX
14	RS232RX	RS232TX
7	GND	GND

3.2
Connection of MBE 970

MBE 970 ECU is equipped with a 55 pins front connector. Here below is connection table.

Data Output connector pin	Pin function	AiM cable
46	RS232TX	RS232RX
45	RS232RX	RS232TX
7	GND	GND

4
AiM device configuration

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 “MBE”
- ECU Model "967/970"

5
Available channels

Channels received by AiM devices connected to "MBE" "967/970" protocol are:

ID	CHANNEL NAME	FUNCTION
ECU_1	MBE_ENGINESPD	Engine Speed
ECU_2	MBE_IGNITION	Ignition table
ECU_3	MBE_INJECTIME	Injection time
ECU_4	MBE_THROTANG	Throttle Position sensor
ECU_5	MBE_COOLANTTEMP	Engine coolant temperature
ECU_6	MBE_AIRTEMP	Intake air temperature
ECU_7	MBE_BAROPRESS	Barometric pressure
ECU_8	MBE_LAMBDA	Lambda value
ECU_9	MBE_VOLT_LAMBDA	Lambda voltage
ECU_10	MBE_ENGOILPRESS	Engine oil pressure
ECU_11	MBE_FUELPRESS	Fuel pressure
ECU_12	MBE_GEAR	Engaged gear
ECU_13	MBE_GEAROILTEMP	Gearbox oil temperature
ECU_14	MBE_VOLT_GEAR	Gear sensor voltage
ECU_15	MBE_BOOSTPRESS	Boost pressure
ECU_16	MBE_ROW_VAL	Throttle break point