AiM Infotech

AEM EMS firmware version 1.19+ ECU

Release 1.07

ECU

1
Supported models

AEM supported models are:

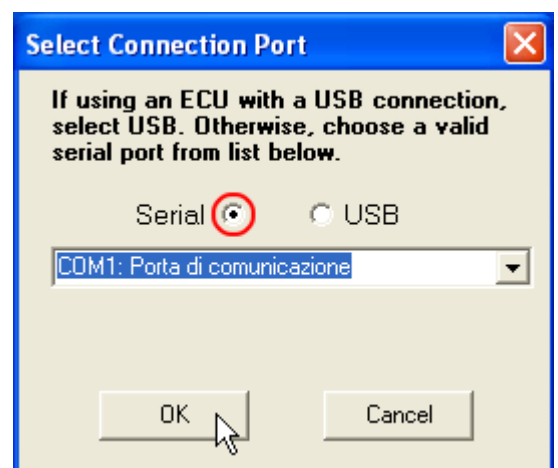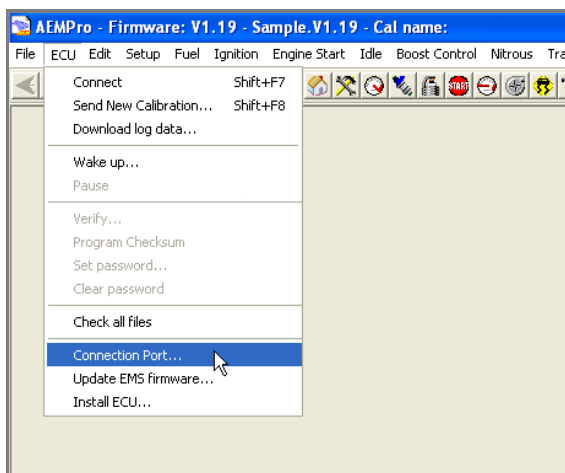- EMS   from firmware version 1.19 onward

2
Software setup

AEM EMS v1.19+ ECU needs a software setting to assure correct communication with AiM devices. "AEMPro" software can be downloaded from AEM website. Run it and follow these instructions.
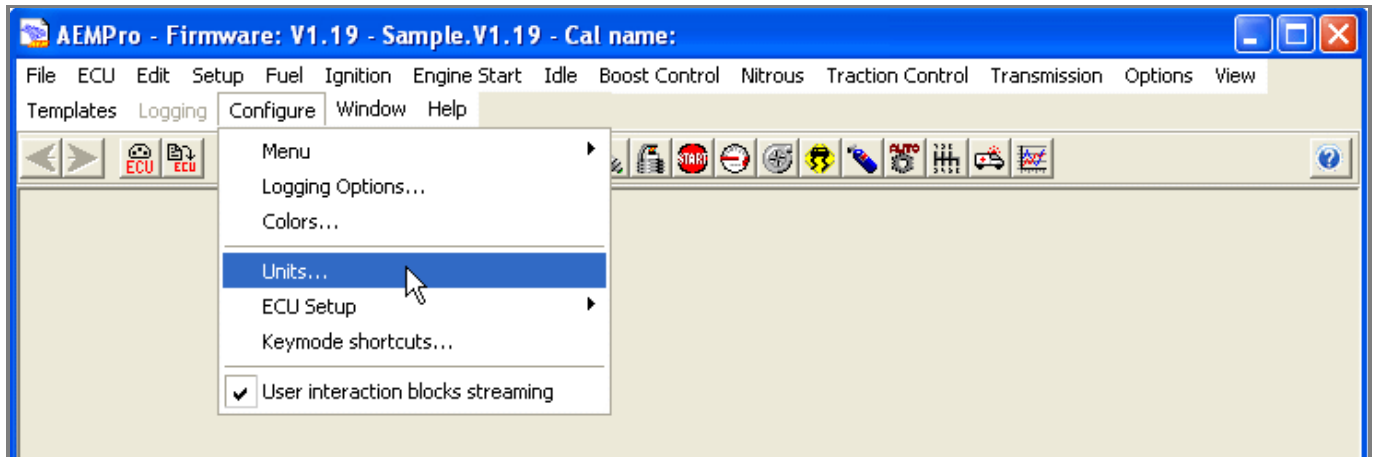
- Follow this path: "ECU –> Connection port"
- Enable "Serial" option
- Select "COM1" communication port and press "OK"

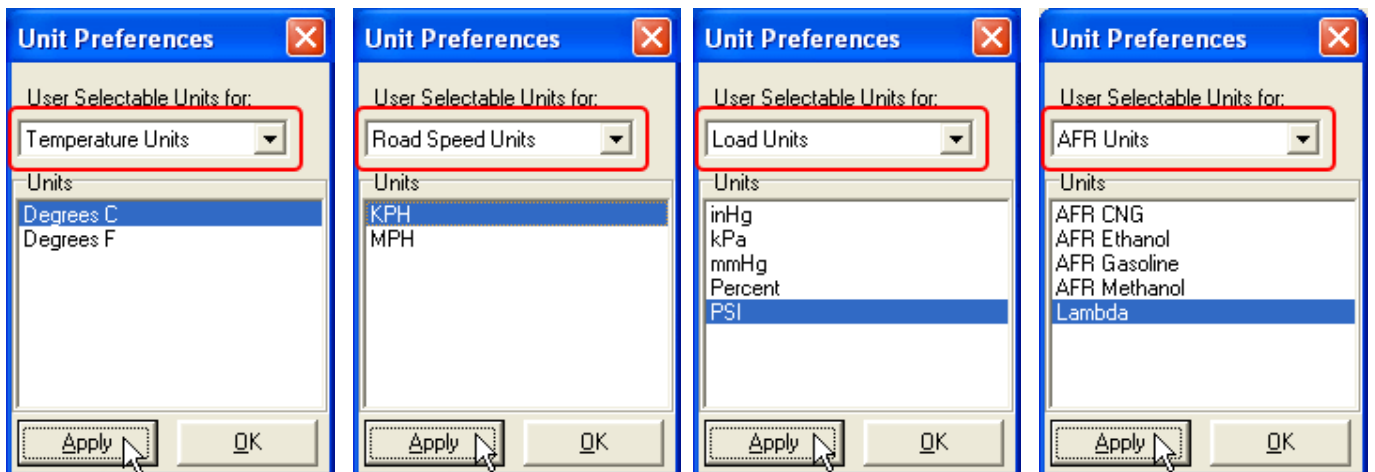It is now necessary to set measure units of the following sensors:
- Temperature sensors
- Speed sensors
- Engine load sensors
- Air fuel ratio sensors (lambda)

- follow this path: "Configure –> Units"

"Unit preferences" panel shows a drop down menu on top window. Here below you see the different available options:
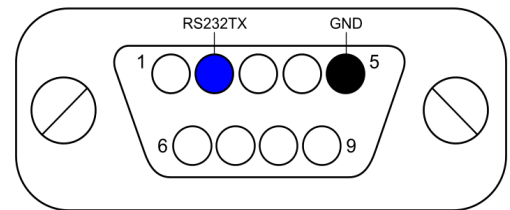
- select the measure unit you prefer
- click "Apply"

3
Wiring connection

AEM EMS 1.19+ ECU features a serial communication protocol on the rear DB9 female connector. Here below on the left it is shown. On the right the connector pinout and below connection table.

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

4
AiM Logger configuration

Before connecting the device to the ECU set it up as follows:

- Run Race Studio 2 software and follow this path:
- Device Configuration –> Select the device you are using;
- select the configuration or press "New" to create a new one;
- select ECU manufacturer "AEM" and ECU Model "EMS v1.19+"
- transmit the configuration to the device pressing "Transmit".

5
Available channels

Channels received by AiM devices connected to "AEM" "EMS v1.19+" protocol are:

ID	CHANNEL NAME	FUNCTION
ECU_1	AEM_RPM	RPM
ECU_2	AEM_LOAD	Engine load
ECU_3	AEM_TPS	Throttle position sensor
ECU_4	AEM_AIR_TEMP	Intake air Temperature
ECU_5	AEM_WATER_TEMP	Water temperature
ECU_6	AEM_ADCR11	Pressure voltage
ECU_7	AEM_ADCR13	Gear voltage
ECU_8	AEM_ADCR14	Spare Temperature voltage
ECU_9	AEM_ADCR17	EGT#1 Voltage
ECU_10	AEM_ADCR18	EGT#2 Voltage
ECU_11	AEM_ADCR15	EGT#3 Voltage
ECU_12	AEM_ADCR16	EGT#4 Voltage
ECU_13	AEM_BATTERY	Battery Voltage
ECU_14	AEM_LAMBDA_#1	Lambda Value 1
ECU_15	AEM_LAMBDA_#2	Lambda Value 2
ECU_16	AEM_SPEED	Vehicle speed
ECU_17	AEM_GEAR	Engaged gear
ECU_18	AEM_ERROR1	Error signal
ECU_19	AEM_ERROR2	Error signal