User Manual

ECULog

Release 1.03



INDEX

1 – ECULog in a few words 3
2 – Available kits 3
3 – ECULog expansions and connections 5
4 – Configuration with RaceStudio 3 software 6
4.1 – Channels configuration 7
4.2 – ECU Stream configuration 8
4.3 – CAN2 Stream 9
4.4 – CAN Expansions configuration 10
4.5 – Math channels configuration 20
4.6 – Status Variables configuration 21
4.7 – Parameters configuration 27
4.8 – SmartyCam Stream 28
4.9 – CAN Output configuration 30
4.10 – Transmitting the configuration to ECULog 30
5 – Dimensions, pinout and technical characteristics 31

1 – ECULog in a few words

ECULog is a small, light and easy to use logger that samples and records channels coming from the vehicle ECU and from the connected CAN expansions
It records the data both into the internal 4GB not volatile memory and in the 16GB USB-C memory card.
ECULog allows the user to create math channels as well as a CAN Output using both the channels supplied by the vehicle ECU and these supplied by AiM CAN Expansions. All channels can also be displayed on SmartyCam videos when available.
AiM supported expansions are:

- GPS09c Pro and Pro Open Module
- LCU-One CAN
- LCU1S and LCU1S Open
- Channel Expansion
- ACC
- ACC2 and ACC2 Open
- ACC3 and ACC3 Open
- Shift Light Module normal and "B" version
- GT and GT standalone Steering Wheel
- GS Dash
- SmartyCam3

2 – Available kits

ECULog is available in different kits.

ECULog CAN/RS232 kit: part number **X08ECULOGCRS200**

- ECULog (**1**)
- 2m CAN/RS232+external power cable (**2**)
- 2m USB 2.0 Type A – Type C cable (**3**)
- 16GB Mini USB Drive (**4**)



ECULog OBDII kit: part number **X08ECULOGOBD200**

- ECULog (**1**)
- 2m CAN/OBDII/K-Line +external power cable (**2**)
- 2m USB 2.0 Type A-Type C cable (**3**)
- 16GB Mini USB Drive (**2**)



Accessories and spare parts:

- 2m CAN/RS232 +power cable **V02.589.050**
- 2m CAN/OBDII/K-Line + power cable **V02.589.040**
- 2m USB 2.0 Type A-Type C cable **X90TMPC101010**
- 16GB mini USB Drive **3IRUSBD16GB**

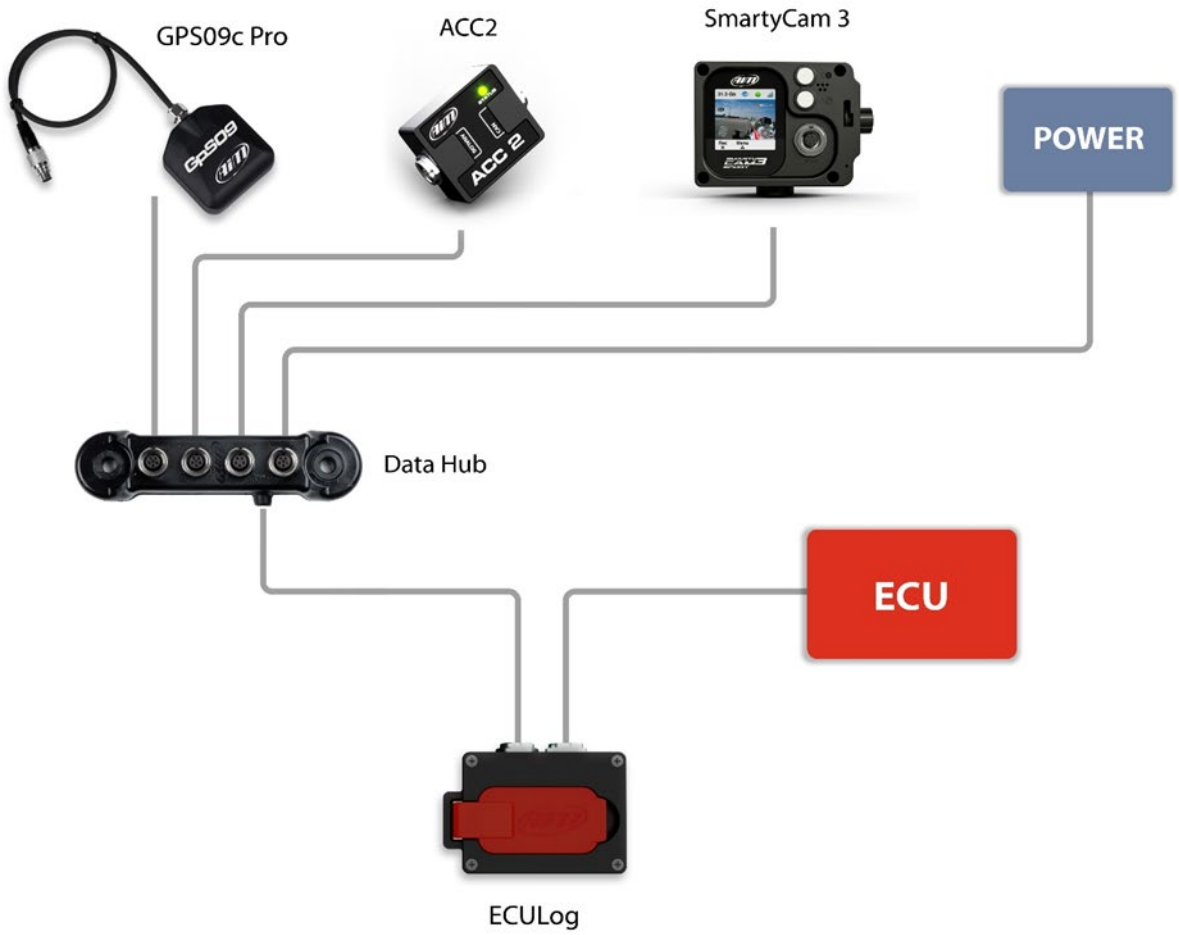
Please note: for connecting ECULog to the PC use the **2m USB2.0 Type A-Type C cable whose part number is X90TMPC101010** you find in the kit. Connection through an USB C – USB C cable may not work properly.

3 – ECULog expansions and connections

ECULog supports the following AiM expansions:

- GPS09c Pro and Pro Open Module
- LCU-One CAN
- LCU1S and LCU1S Open
- Channel Expansion
- ACC
- ACC2 and ACC2 Open
- ACC3 and ACC3 Open
- Shift Light Module normal and "B" version
- GT and GT standalone Steering Wheel
- GS Dash
- SmartyCam3

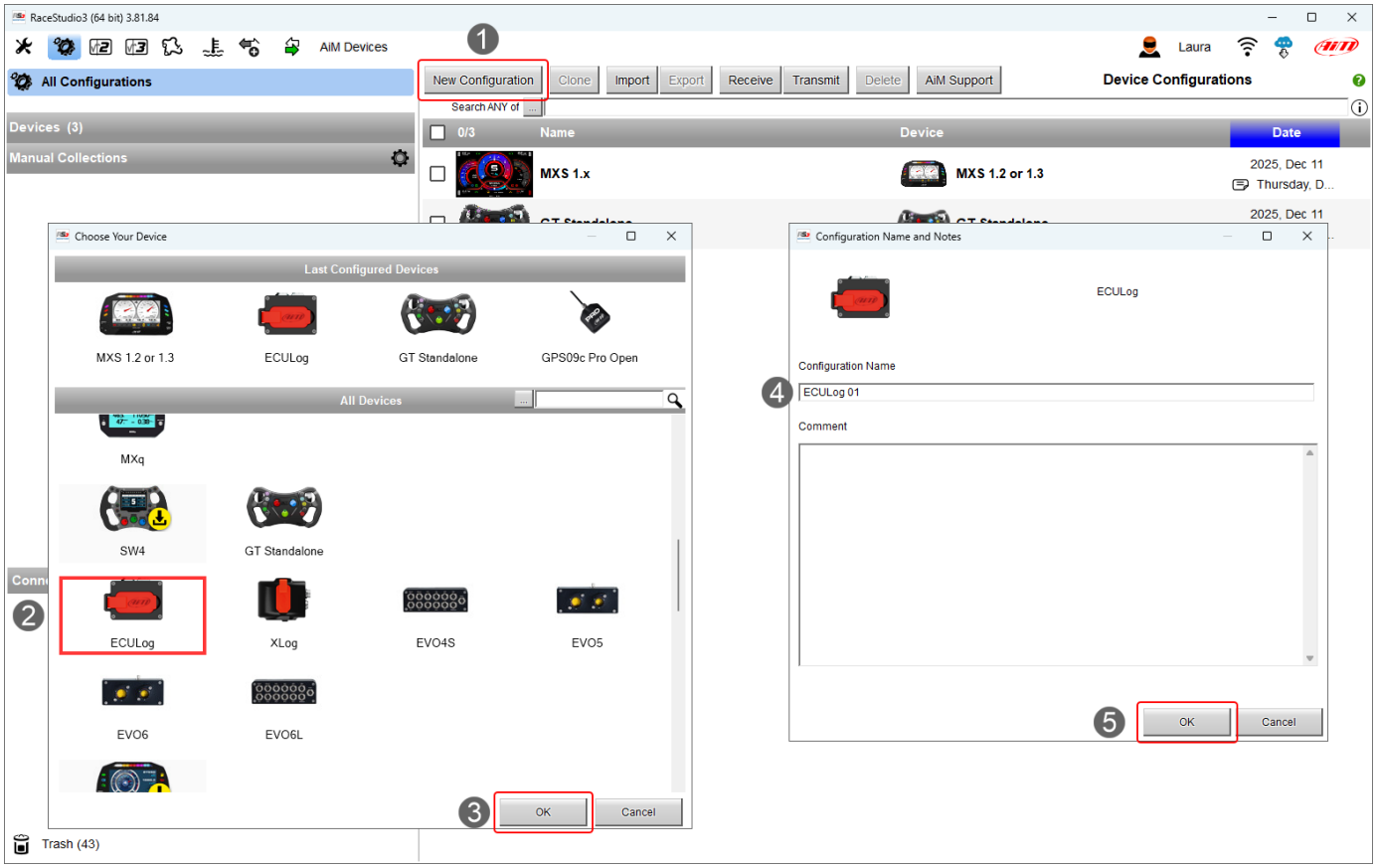
The image below shows an example of AiM CAN Network.



4 – Configuration with RaceStudio 3 software

To configure ECULog follow these steps:

- run RaceStudio 3 software
- press "New" button on the top right keyboard (**1**)
- select ECULog (**2**)
- press "OK" (**3**)
- name the configuration if desired (default name is ECULog – **4**)
- press "OK" (**5**).

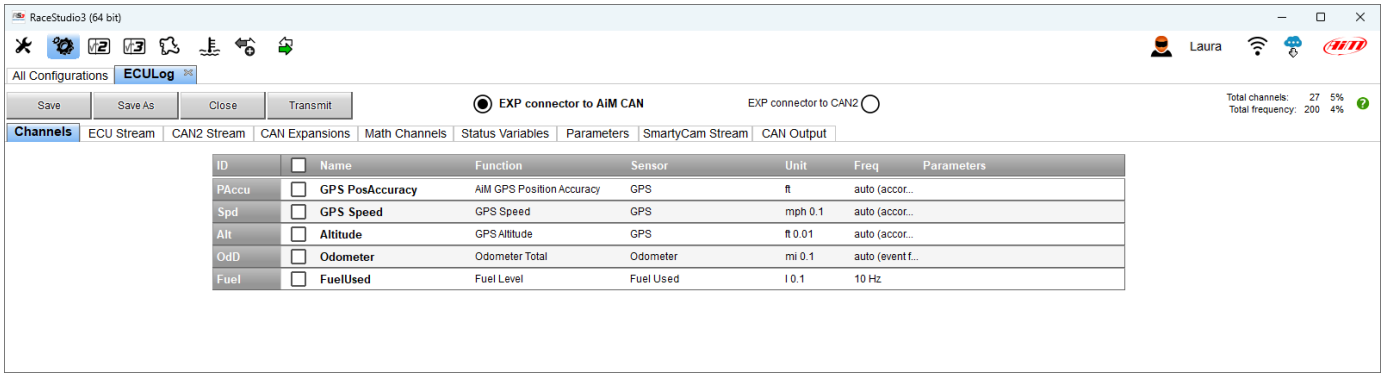


Once the configuration created it is necessary to configure, when possible, the following tabs:

- Channels
- ECU Stream
- CAN2 Stream
- CAN Expansions
- Math Channels
- Status Variables
- Parameters
- SmartyCam Stream
- CAN Output

4.1 – Channels configuration

Once the configuration created, the software enters “Channels” tab. All channels are disabled by default.



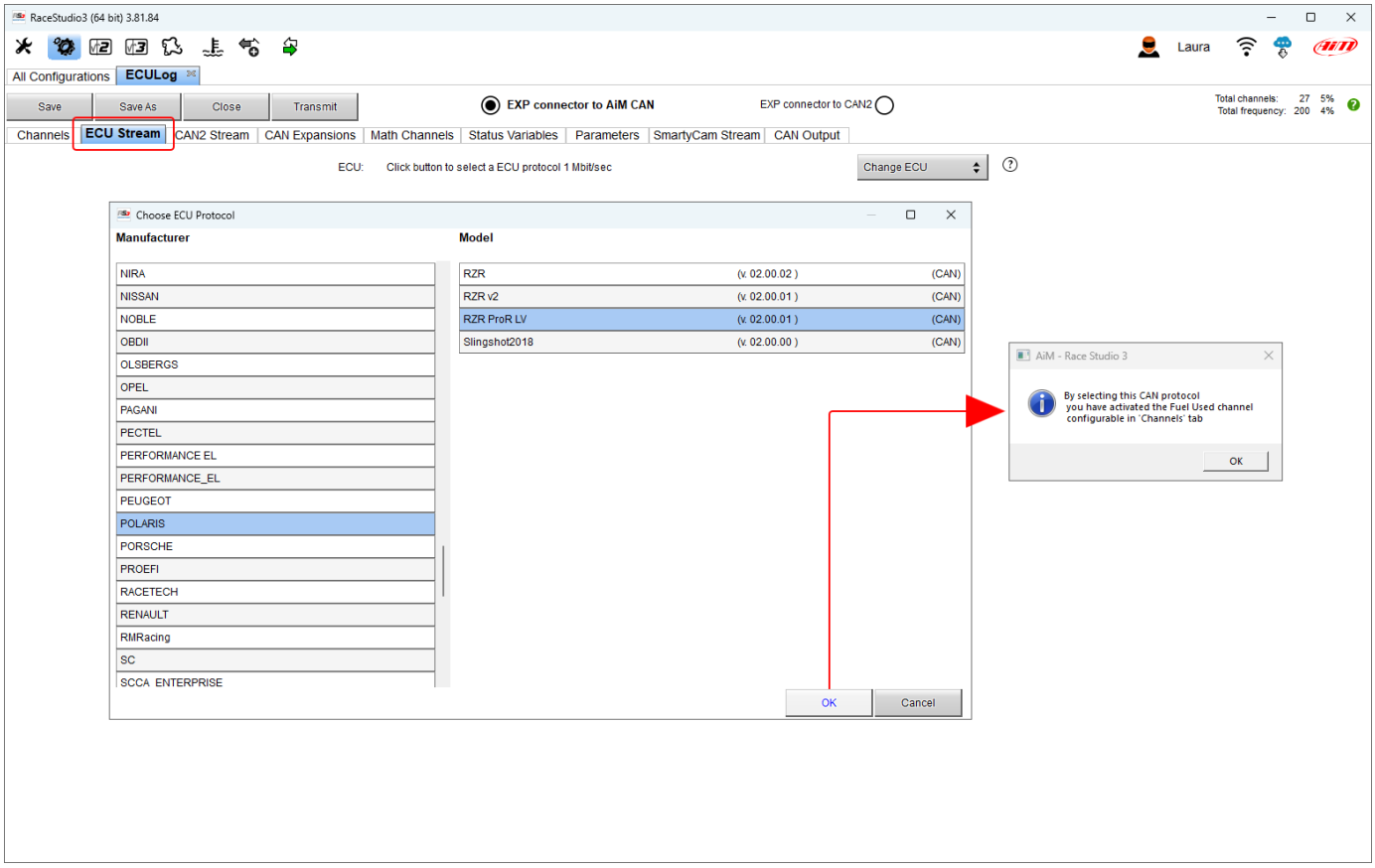
It shows GPS channels, as well as odometer and it is possible to specify the fuel level. For these information to be available it is mandatory:

- to connect an optional GPS09c Pro/09c Pro Open Module using a DataHub
- to have an ECU that supplies fuel level information or to connect and configure a custom sensor.

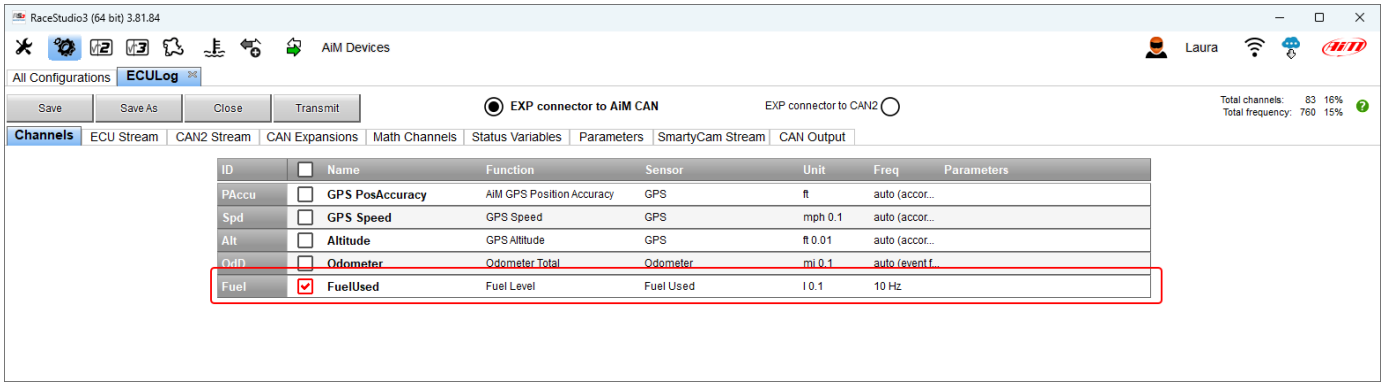
Setting an ECU that supplies fuel level information in “ECU Stream” tab (see the related paragraph) the software informs the user that the channel is available.

4.2 – ECU Stream configuration

Entering "ECU Stream" tab a panel where to choose the connected ECU is prompted.



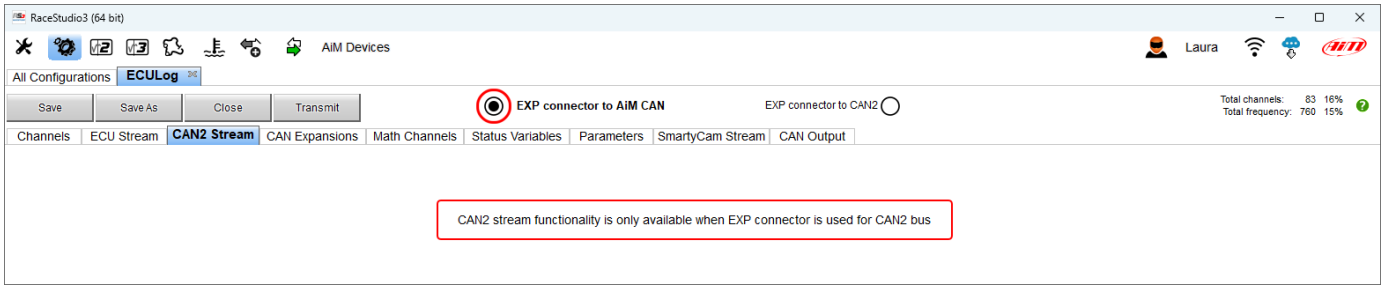
Selecting an ECU that supplies information about fuel level the software informs the user as shown above and the corresponding channel is enabled in "Channels" Tab.

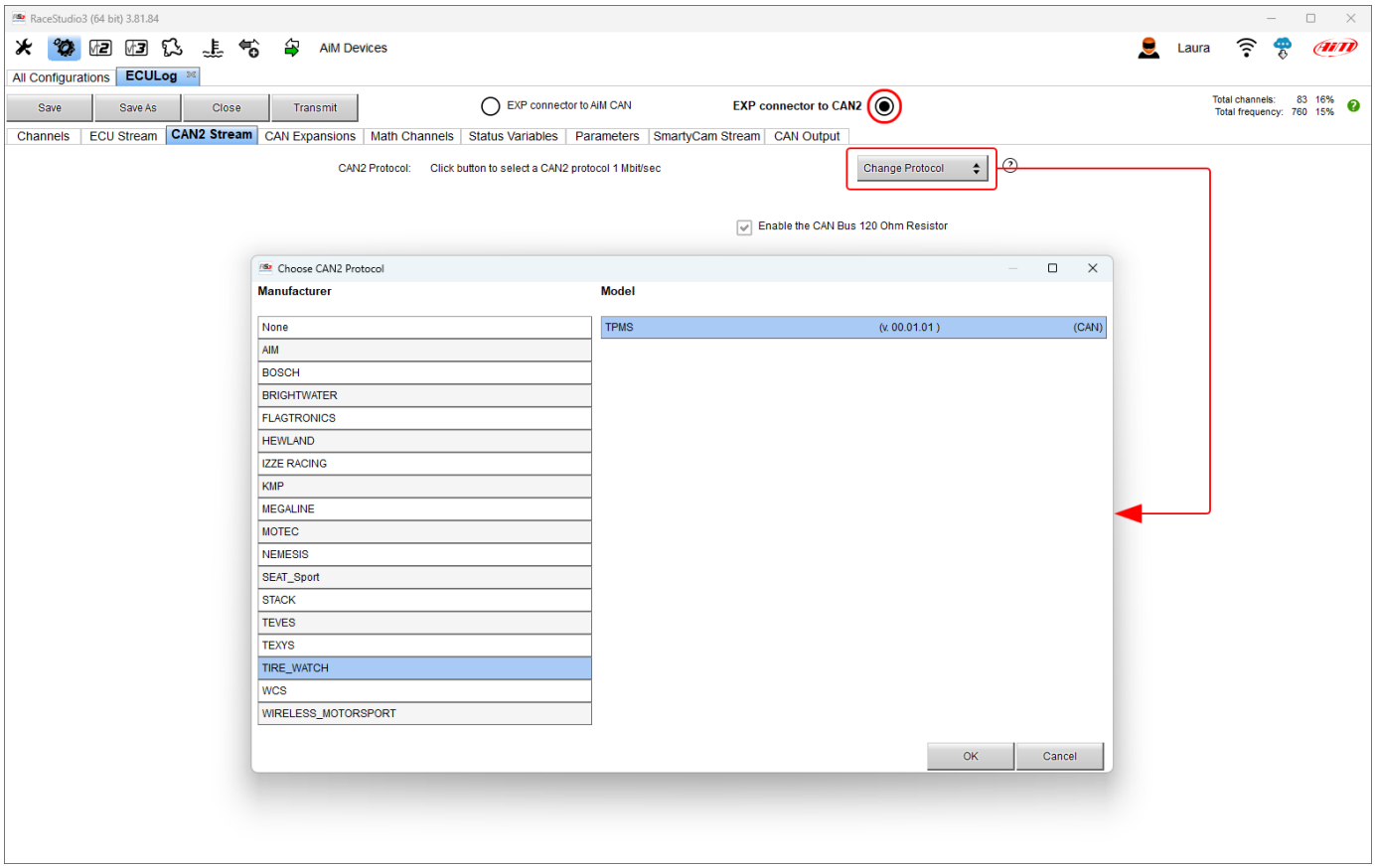


4.3 – CAN2 Stream

Two CAN settings are possible.

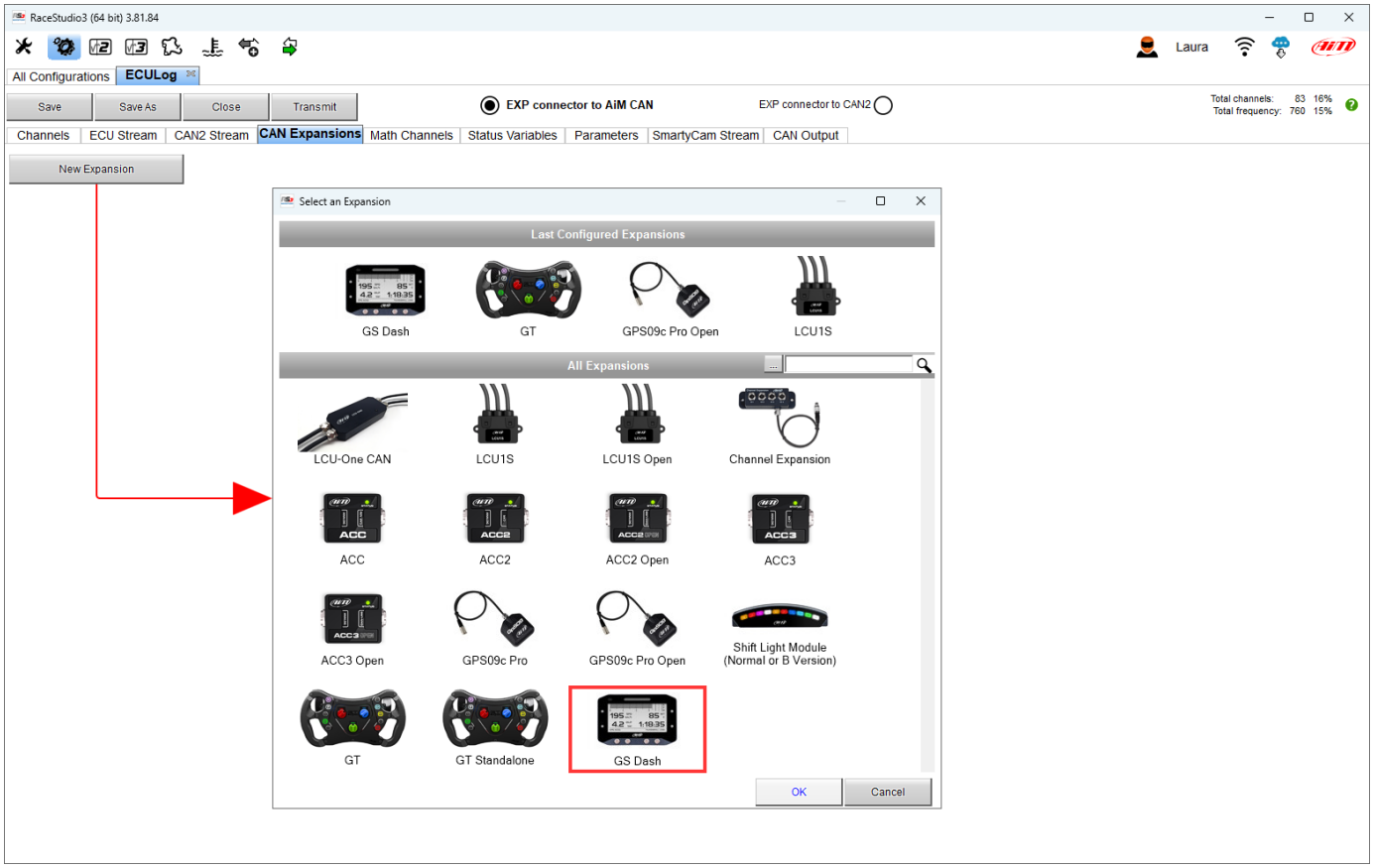
- "EXP connector to AiM CAN" (default) if you like to use an AiM expansion; the software informs the user of this limitation (top image below)
- "EXP connector to CAN2" to connect ECULog to non AiM CAN devices (bottom image below).



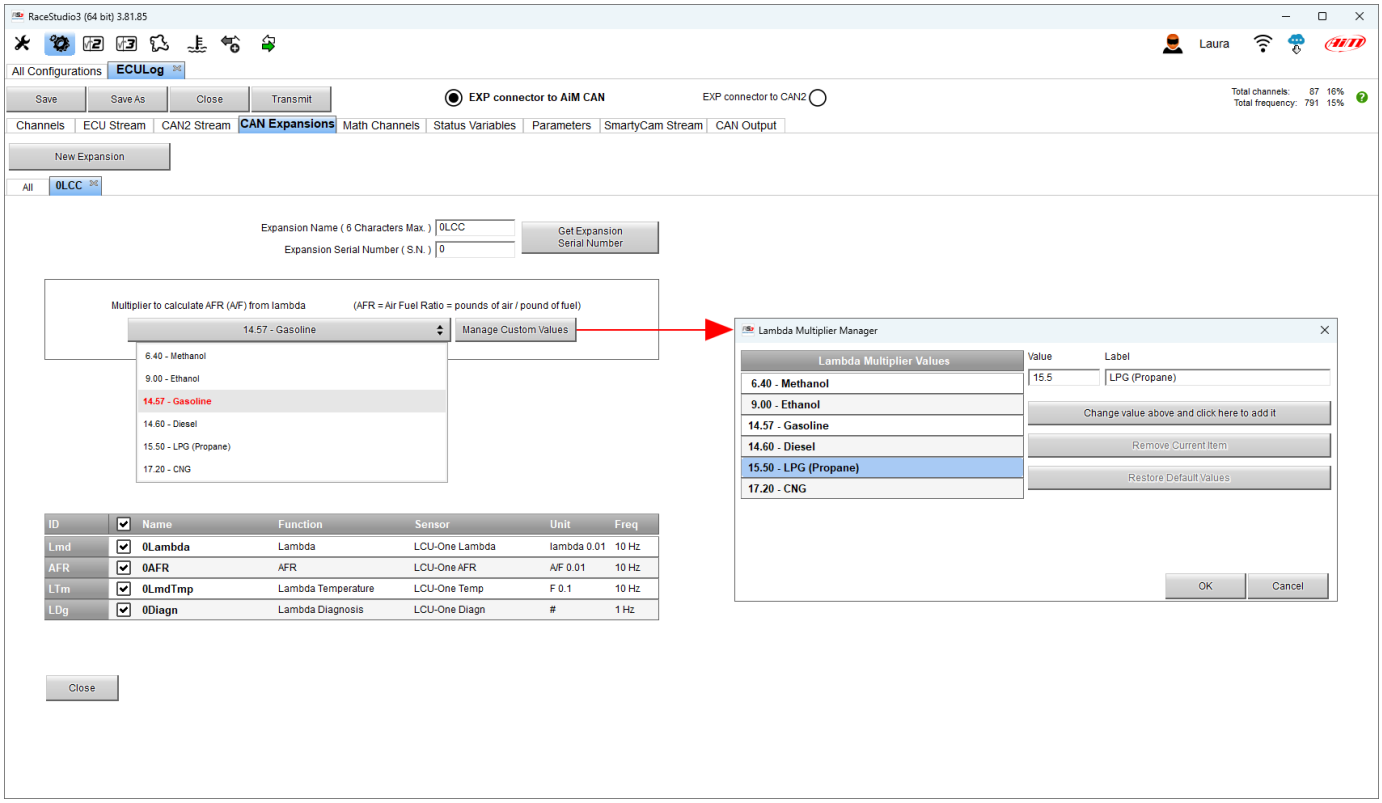


4.4 – CAN Expansions configuration

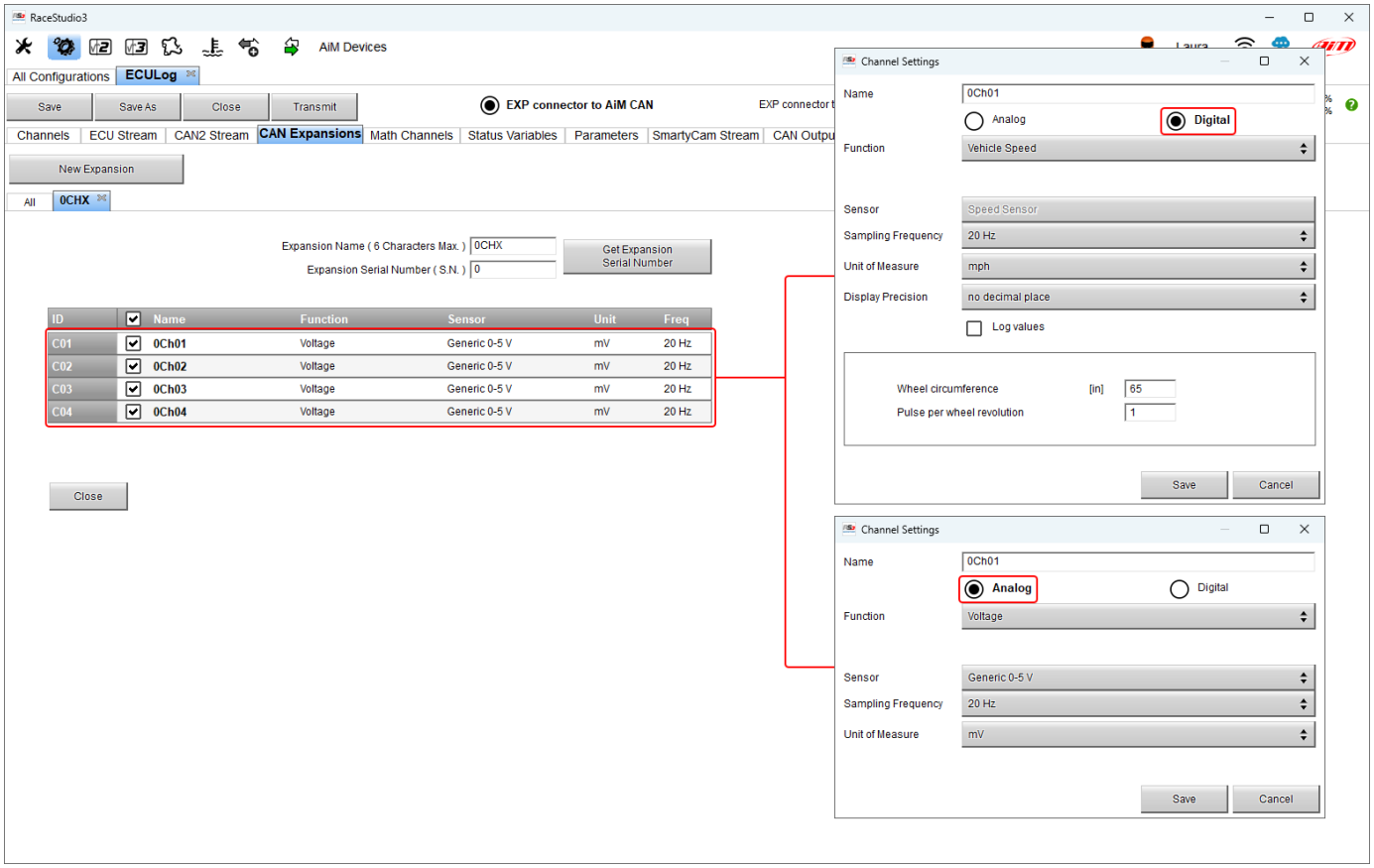
Entering “CAN Expansions” tab a selection panel is prompted. Select the CAN Expansion you want to load in ECULog Configuration and press “OK”. The software enters in CAN Expansions tab. In the following pages expansions configuration tabs are shown. Please refer to the single devices user manuals for further information.



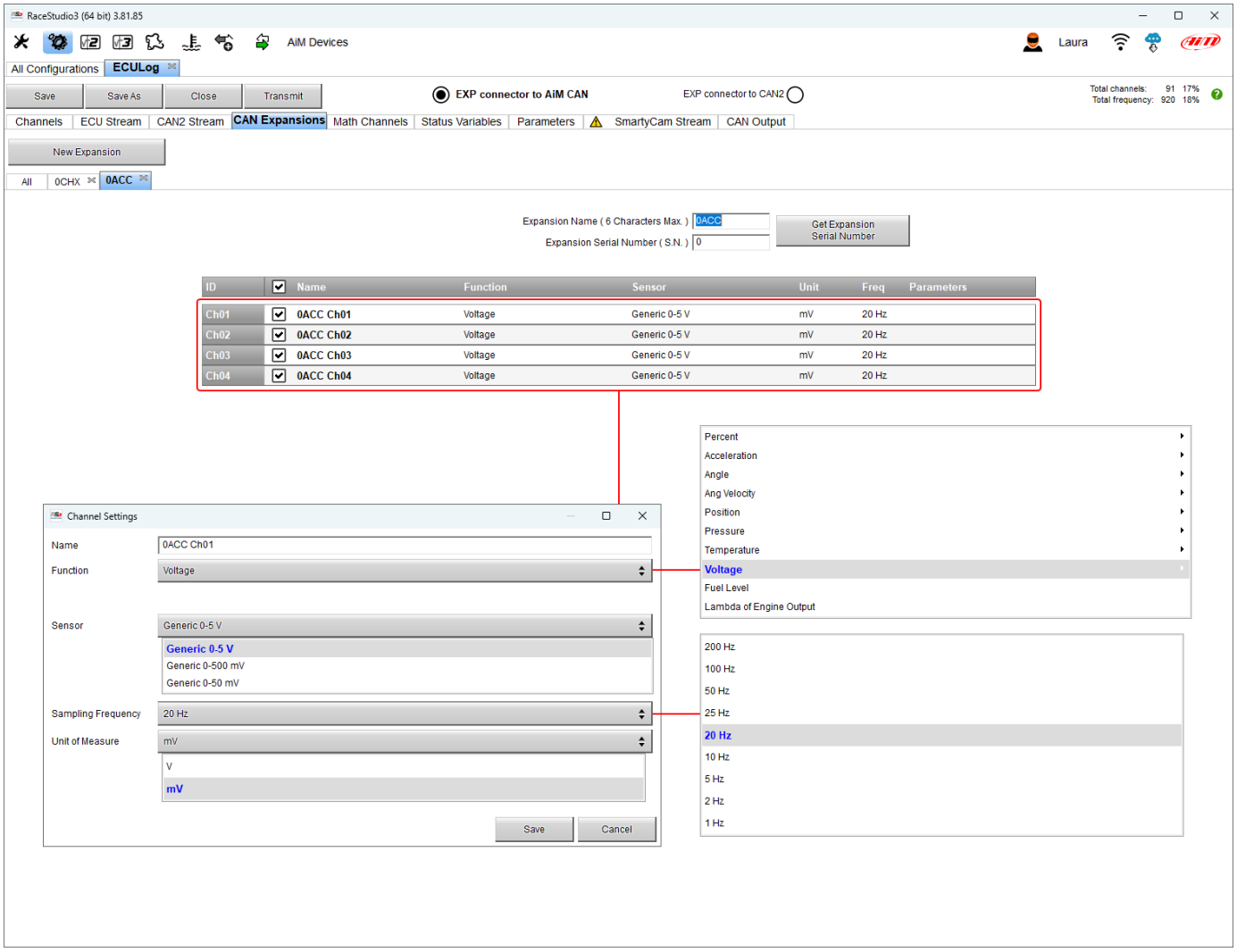
Lambda controllers (all versions). It is possible to select the multiplier to calculate AFR from lambda and add a custom value.



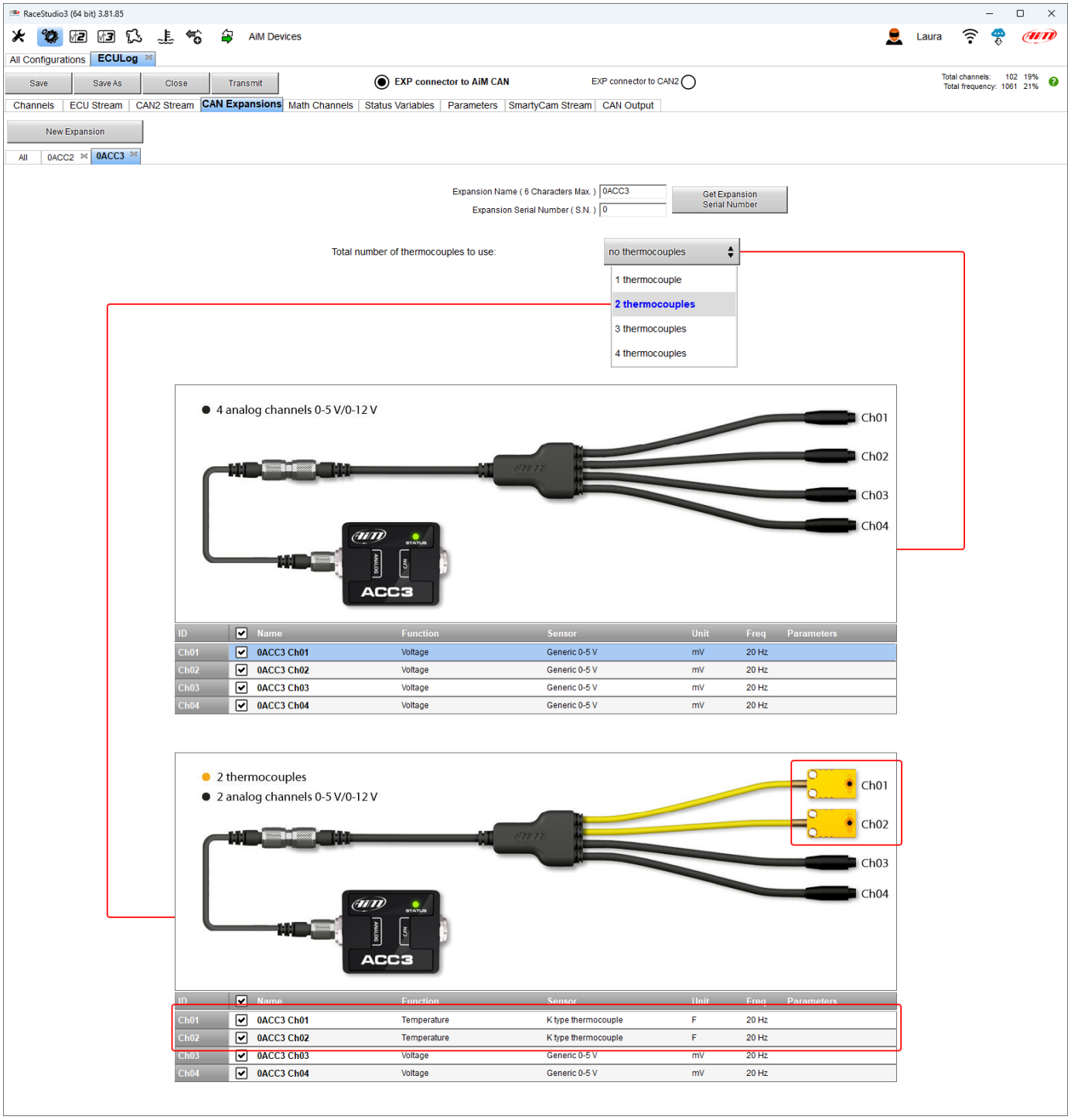
Channel Expansion channels can be set as digital or as analog.



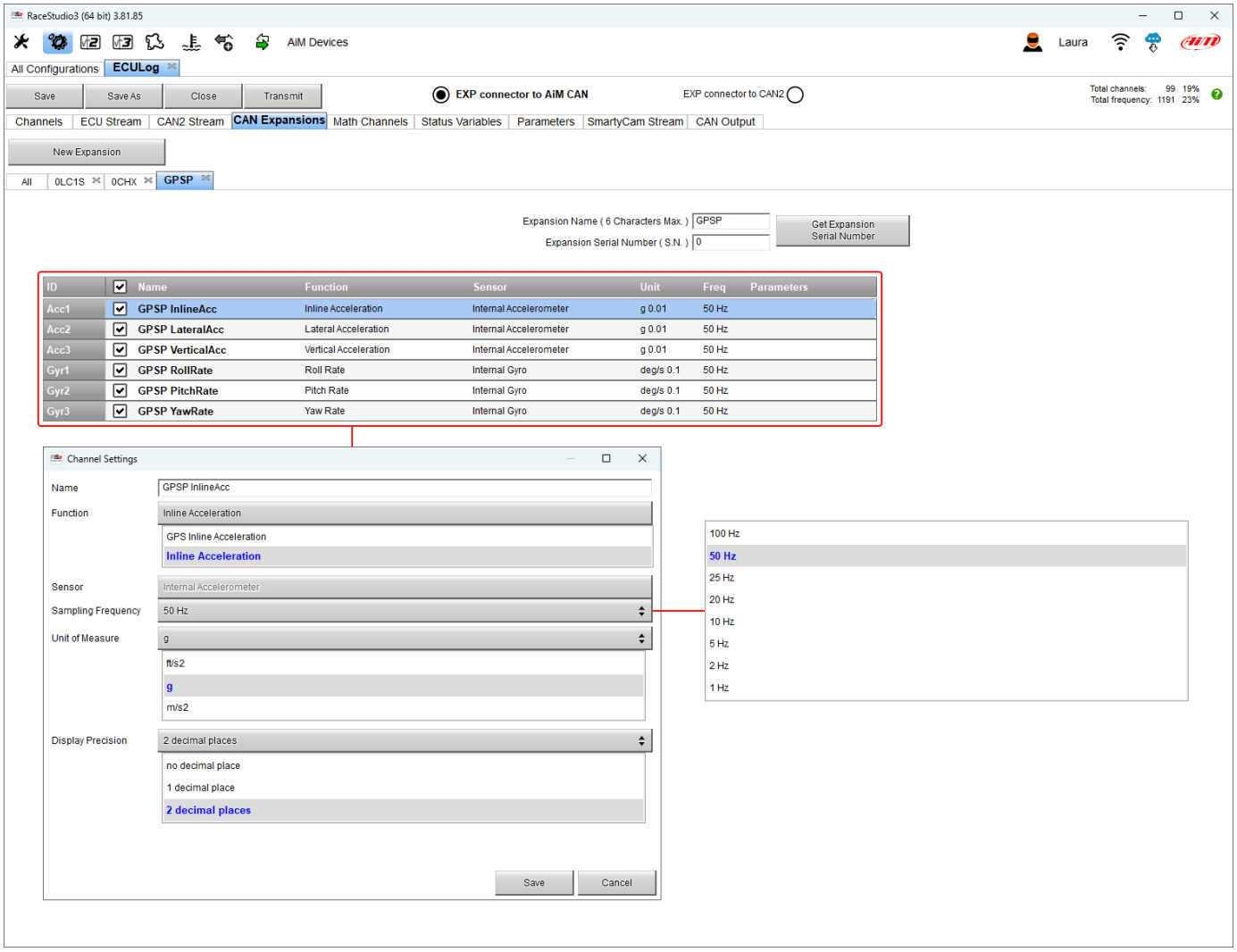
ACC setting panel allows to set Name, Function, sensor type, sampling frequency and unit of measure.. Clicking on each channel a configuration panel is prompted.



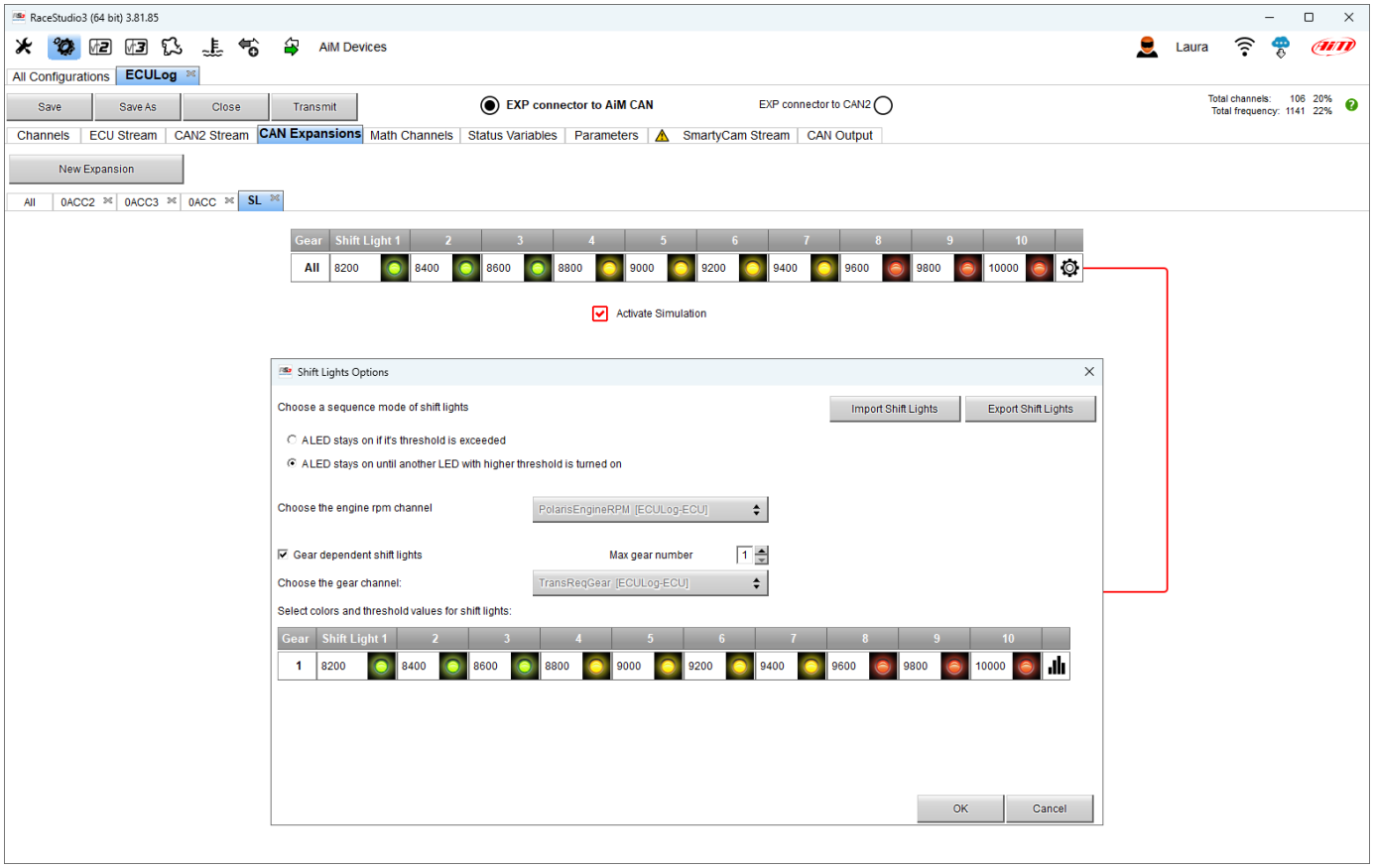
ACC2 and ACC 3 (all versions) can support up to four thermocouples. Selecting the number of thermocouples it is supposed to connect the corresponding channels in the table bottom of the view switches to temperature channel and the corresponding harness is shown. The remaining channels are configurable using the configuration panel that is prompted clicking the corresponding channel row in the table.



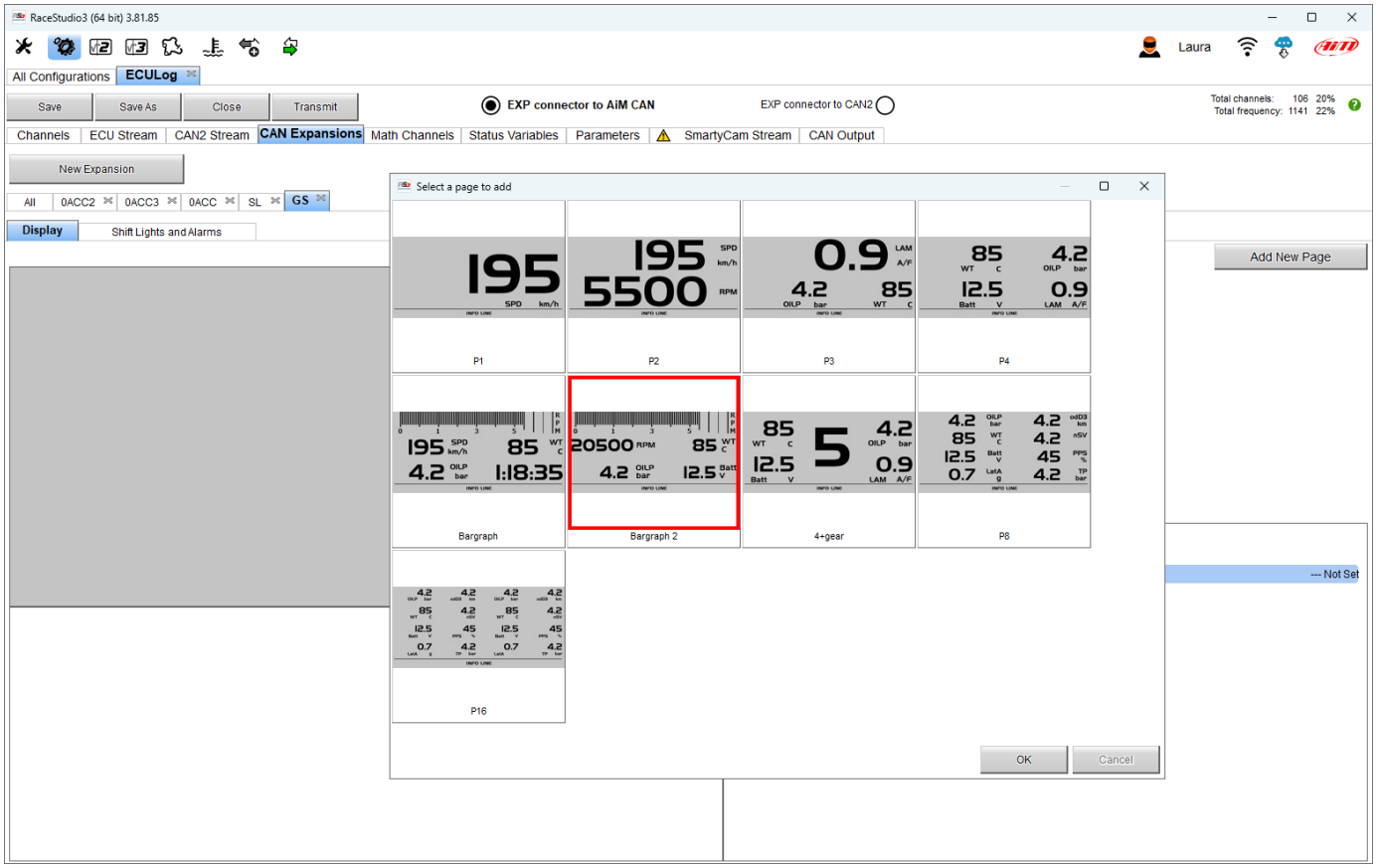
GPS09c Pro and **GPS09c Pro Open**
Clicking the channels it is possible to set: name, function, sampling frequency, unit of measure and display precision.



Shift Light Module. Here it is possible to set the shift light module so that its LED flashes according to the RPM value or to the engaged gear. It is also possible to activate the simulation.

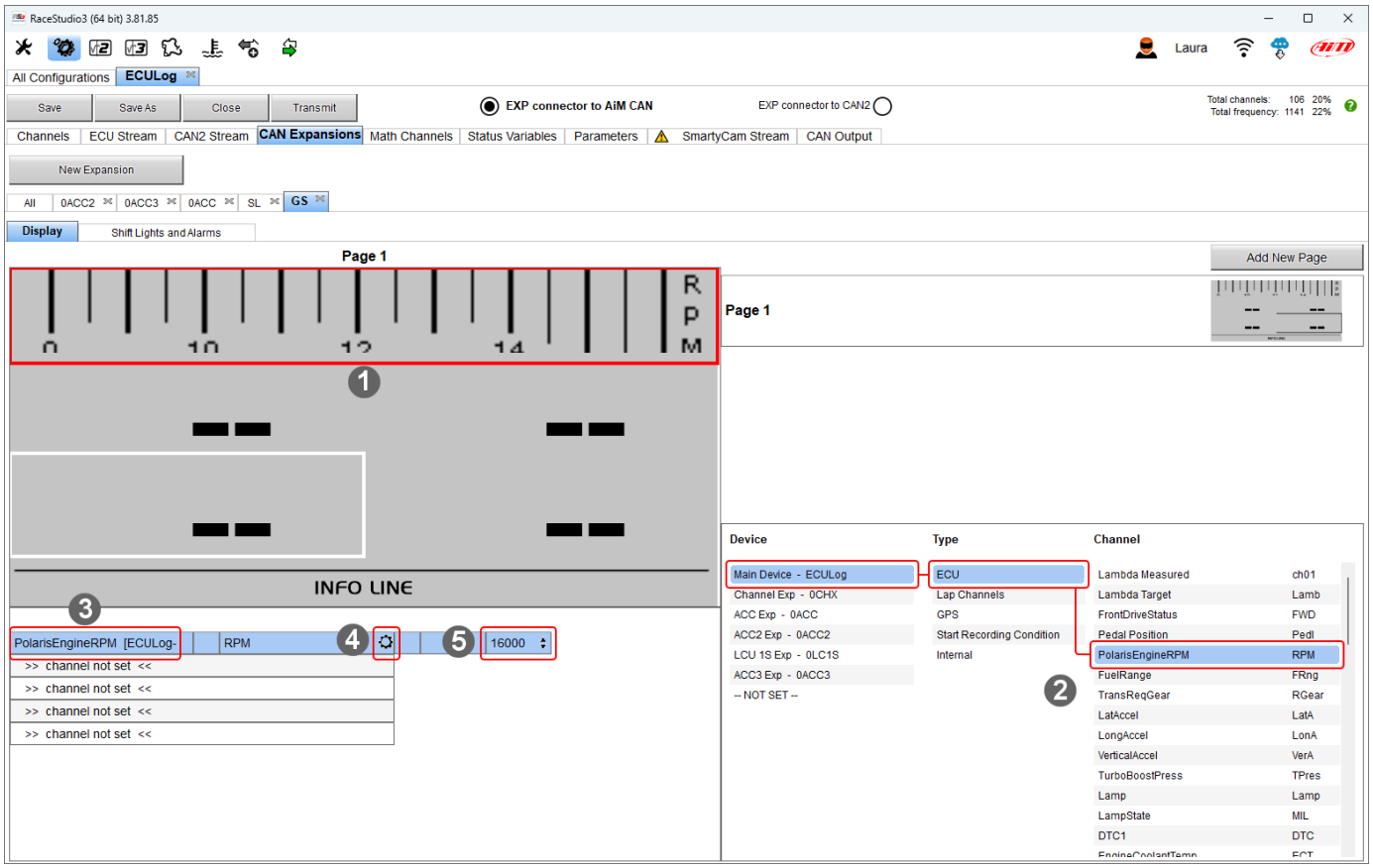


GS Dash. ECULog can support a dash too. The software offers different display layout as shown here below.



Once selected the desired page its configuration page is prompted. To set the display fields:

- select the field to set (**1**)
- select the channel to match double clicking it (in the example RPM coming from the ECU **2**)
- the channel is shown in the table bottom left of the view (**3**)
- the channel name can be edited double clicking it (**4**)
- select RPM max value in the drop-down menu (**5**)



GT and GT Standalone steering wheel. With reference to the image below:

- default setting is "OFF" for all buttons (**1**)
- "Brightness Settings" button allows to set the buttons brightness and is the same for all (**2**)
- enabling "Check at power on" checkbox backlighted keys will flash at power on allowing to check that GT32-PC connection is correctly working (**3**)
- external left and right buttons do not support channel configuration but only LED configuration (**4**)
- all other buttons can be configured as "Momentary" "Toggle", or "Multistatus" (**5**).
    - In "Momentary" mode the channel is active when the pushbutton is pressed and comes back to "Not active" status when the button is released
    - In "Toggle" mode the channel status changes from ON to OFF each time the pushbutton is pressed
    - In Multistatus mode the channel can have different status according to the number of pressures and it is possible to add/remove statuses

Please refer to GT32 user manual for further information about GT32 configuration. AGGIORNARE IMMAGINE.

