MERCURY CAN ECUs

Racing Data Power

INTRODUCTION

AIM has developed special applications for many of the most popular ECU: by special applications we mean user friendly systems which allow to easily connect your ECU to our high tech data loggers: user needs only to install harness between the logger and the ECU.

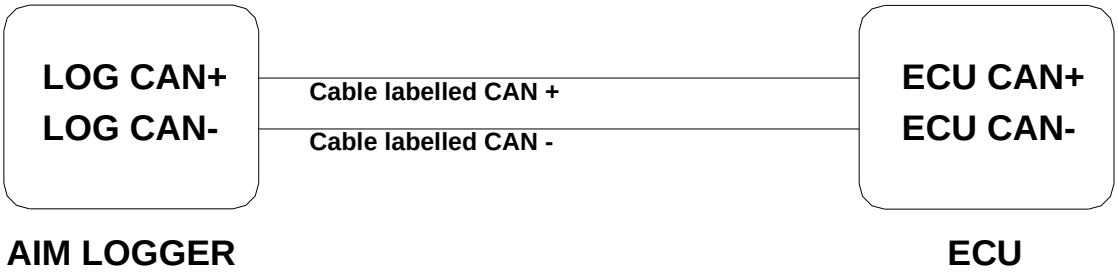
Once connected, the logger displays (and/or records, depending on the logger and on the ECU data stream and configuration) values like RPM, engine load, throttle position (TPS), air and water temperatures, battery voltage, speed, gear, lambda value (air/fuel ratio) analog channels…

All AIM loggers include – free of charge – Race Studio 2 software, a powerful tool to configure the system and analyze recorded data on your PC.

Warning: once the ECU is connected to the logger it is necessary to set it in the logger configuration in Race Studio 2 software.
Select Manufacturer "Mercury" and Model "STARBOARD_OUTER_ENGINE" or "PORT_OUTER_ENGINE".

Chapter 1 – Mercury CAN communication setup

This tutorial explains how to connect Mercury ECUs which use CAN-BUS line to communicate parameters to external loggers.

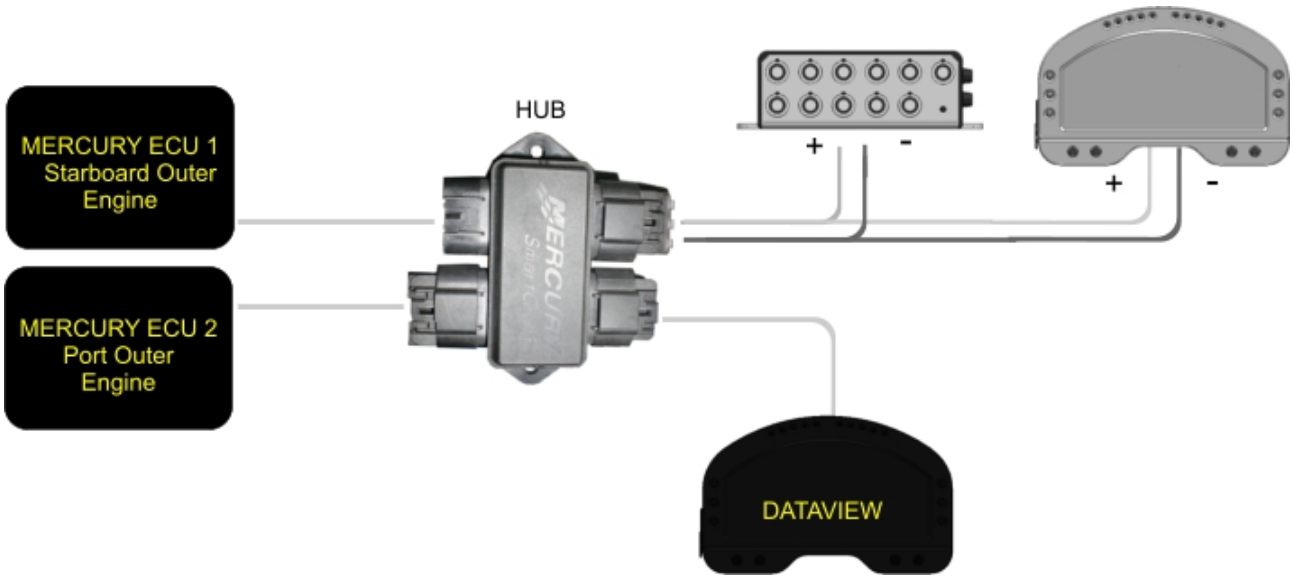


Chapter 2 – Connection to AIM loggers

Boats can be equipped with one or more Mercury engines. In case the boat is equipped with one engine the configuration to be selected is “STARBOARD OUTER ENGINE”. If there are 2 engines - as shown in the connection scheme below - it is possible to configure 2 AIM loggers with the 2 different available configurations (see paragraph 3).

To connect AIM loggers to ECU, use one of the four 10 pins connectors of the HUB. HUB transfers data coming from the ECU to Data-view dash (mounted as a stock on all boats).

Note: the communication between ECU and AIM loggers is allowed only when Data-view dash is linked to the system.



Connect AIM logger to 10 pins HUB connector as follows:

- Connect AIM cable labelled CAN – to CAN – (blue wire);
- Connect AIM cable labelled CAN+ to CAN+ (white wire);
- Connect AIM cable labelled VBatt to VBatt (red wire) or VBatt (Key) (purple wire);
- Connect AIM cable labelled GND to GND (black wire).

Chapter 3 – Communication protocol

Channels received by loggers connected to Starboard outer engine (Mercury ECU1 in the wiring diagram in the page below) ECU are:

ID	CHANNEL NAME	FUNCTION
ECU_1	MY_RPM	RPM
ECU_2	MY_DTS_POS	Digital Throttle and Shift position
ECU_3	MY_TPS	Throttle position sensor
ECU_4	MY_MAP	Manifold air pressure
ECU_5	MY_DTS_SEL	Digital Throttle Selected
ECU_6	MY_H2O_PRESS	Water pressure
ECU_7	MY_BOOST_PRESS	Boost pressure
ECU_8	MY_POS_TRIM	Trim position
ECU_9	MY_PROP_TRIM	
ECU_10	MY_OIL_TEMP	Oil temperature
ECU_11	MY_OIL_PRESS	Oil pressure
ECU_12	MY_ENG_TEMP	Engine temperature
ECU_13	MY_BLOCK_PRESS	Block pressure
ECU_14	MY_BAP	Barometric pressure
ECU_15	MY_V_BATT	Battery voltage

Channels received by loggers connected to Port outer Engine (Mercury ECU2 in the wiring diagram in the page below) are:

ID	CHANNEL NAME	FUNCTION
ECU_1	MY_RPM	RPM
ECU_2	MY_DTS_POS	Digital Throttle and Shift position
ECU_3	MY_TPS	Throttle position sensor
ECU_4	MY_MAP	Manifold air pressure
ECU_5	MY_DTS_SEL	Digital Throttle Selected
ECU_6	MY_H2O_PRESS	Water pressure
ECU_7	MY_BOOST_PRESS	Boost pressure
ECU_8	MY_POS_TRIM	Trim position
ECU_9	MY_PROP_TRIM	Prop Trim
ECU_10	MY_OIL_TEMP	Oil temperature
ECU_11	MY_OIL_PRESS	Oil pressure
ECU_12	MY_ENG_TEMP	Engine temperature
ECU_13	MY_BLOCK_PRESS	Block pressure
ECU_14	MY_BAP	Barometric pressure
ECU_15	MY_V_BATT	Battery voltage