

## Motec M84 ECU



## INTRODUCTION

**AIM** has developed special applications for many of the most common ECU: by special applications we mean user-friendly systems which allow to easily connect the vehicle ECU to our hi-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 model and on the ECU data stream) 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.

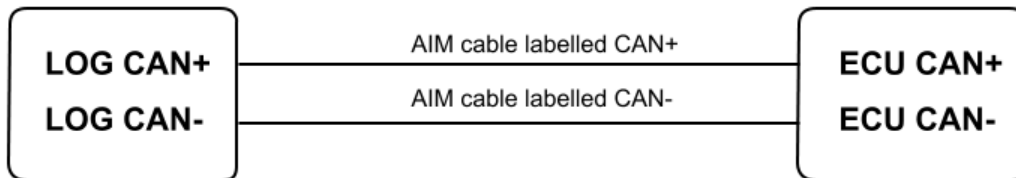
**Select Manufacturer “MoTeC” and Model “M84”.**

Refer to Race Studio Configuration user manual for further information concerning the loggers configuration.

As far as any further information concerning ECU firmware/software settings is concerned, it is always recommended to address to your ECU dealer.

## Chapter 1 – CAN communication setup

MoTeC M84 ECU is equipped with a CAN communication protocol whose setup is shown here below.

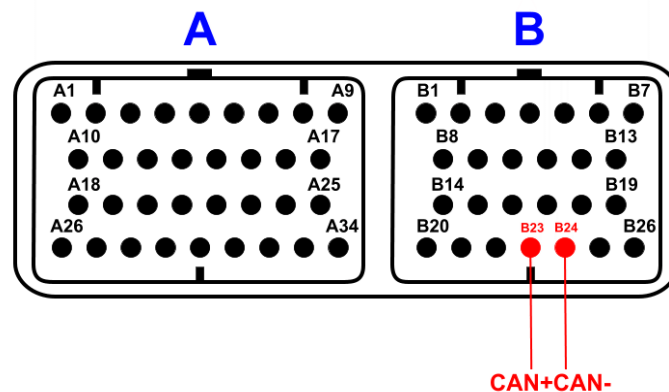


## Chapter 2 – ECU Connection

MoTeC M84 ECU is equipped with two male connectors: a 34 pins male connector labelled “A” and a 26 pins male one labelled “B”, highlighted here below.



Here below is shown MoTeC M84 pinout.



To connect MoTeC M84 ECU to AIM loggers connect:

- AIM cable labelled CAN+ with pin 23 of 26 pins “B” male connector;
- AIM cable labelled CAN- with pin 24 of 26 pins “B” male connector.

**Please note: for MoTeC M84 ECU to communicate with aim loggers a 120 Ohm “line end” resistor is needed. Ensure that it is installed between CAN+ and CAN-; use a multimeter; disconnect AIM logger from the ECU and make this check on the ECU harness.**

## Chapter 3 – MoTeC M84 communication protocol

ID	CHANNEL NAME	FUNCTION
ECU_1	M84_RPM	Engine speed sensor
ECU_2	M84_TPS	Throttle Position Sensor
ECU_3	M84_MAP	Manifold Air Pressure
ECU_4	M84_IAT	Intake Air Temperature
ECU_5	M84_ECT	Engine Coolant Temperature
ECU_6	M84_LAMBDA1	Lambda sensor 1
ECU_7	M84_LAMBDA2	Lambda sensor 2
ECU_8	M84_MAF	Raw value
ECU_9	M84_FUEL_PR	Fuel Pressure
ECU_10	M84_OIL_PR	Oil Pressure
ECU_12	M84_EXH_TEMP	Exhausted Air Temperature
ECU_13	M84_BATTVOLT	Battery Voltage
ECU_15	M84_GRD_SP_LF	Ground Speed Left
ECU_16	M84_GRD_SP_RH	Ground Speed Right
ECU_17	M84_DRV_SP_LF	Drive Speed Left
ECU_18	M84_DRV_SP_RH	Drive Speed Left
ECU_19	M84_DRV_SPEED	Drive Speed
ECU_20	M84_GRD_SPEED	Ground Speed
ECU_21	M84_WHEEL_SLIP	Wheel Slip
ECU_22	M84_LA1_SH_TRM	Lambda 1 Short Term Trim
ECU_23	M84_LA2_SH_TRM	Lambda 2 Short Term Trim
ECU_24	M84_LA1_LN_TRM	Lambda 1 Long Term Trim
ECU_25	M84_LA2_LN_TRM	Lambda 2 Long Term Trim
ECU_26	M84_FUEL_CUT	Fuel Cut Level
ECU_27	M84_IGN_CUT	Ignition Cut Level
ECU_28	M84_IGN_ADV	Ignition Advance
ECU_32	M84_FUEL_ACT	Fuel Act Pulse Width
ECU_33	M84_FUEL_EFF	Fuel Effective Pulse Width
ECU_34	M84_FUEL_INJ	Fuel Injector Duty Cycle
ECU_35	M84_GEAR	Gear sensor
ECU_37	M84_FUEL_COMP1	Fuel Comp 1
ECU_38	M84_FUEL_COMP2	Fuel Comp 1
ECU_39	M84_ERR_GRP1	Diagnostic Error Group 1
ECU_40	M84_ERR_GRP2	Diagnostic Error Group 2
ECU_41	M84_ERR_GRP6	Diagnostic Error Group 6
ECU_42	M84_ERR_GRP10	Diagnostic Error Group 10
ECU_43	M84_ERR_GRP14	Diagnostic Error Group 14
ECU_44	M84_ST_GRP1	Status Flags Group 1
ECU_45	M84_ST_GRP3	Status Flags Group 3