Scrutineering

PRODUCT INFORMATION

24H SERIES | MICHELIN

Ver. 23.4

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Introduction

The purpose of this document is to provide all the necessary information about the data logger used in the 24H Series championship.

Here you will find all the components required by the car depending on the category and type of engine, as well as all the information on installation and technical applications necessary for the teams and manufacturers.

1. EVO 5 Logger

The logger used is AiM's EVO5. The led situated on the top of EVO5 next to SD slot, indicates information about the system:

Logger status	Led colour	Blinking
Logger in error	Red	Slowly
Recording	Cyan	Still
Idle status	Green	Still

There are different kits with different components:

EVO 5 kit



1 - EVO 5
2 - Harness 37 pin
3 - Micro USB
4 - GPS09 Module 4m
5 - Holder (screws-nuts includes)

EVO 5 Kit with 1 pressure sensor

1 - EVO 5	6 - Pressure sensor 0-5 bar Abs: X1
2 - Harness 37 pin	7 - Extension cable 2m: X1
3 - Micro USB	8 – Tube for Pressure Sensor: X1
4 - GPS09 Module 4m	9 – Fitting M10x1 outside: X1
5 - Holder (screws-nuts includes)	

EVO 5 Kit with 2 pressure sensors

1 - EVO 5	6 - Pressure sensor 0-5 bar Abs: X2
2 - Harness 37 pin	7 - Extension cable 2m: X2
3 - Micro USB	8 – Tube for Pressure Sensor: X2
4 - GPS09 Module 4m	9 – Fitting M10x1 outside: X2
5 - Holder (screws-nuts includes)	

EVO 5 Kit with 3 pressure sensors

1 - EVO 5	6 - Pressure sensor 0-5 bar Abs: X3
2 - Harness 37 pin	7 - Extension cable 2m: X3
3 - Micro USB	8 – Tube for Pressure Sensor: X3
4 - GPS09 Module 4m	9 – Fitting M10x1 outside: X3
5 - Holder (screws-nuts includes)	

2. Classes

According to current technical regulations, the use of the different logger kits can be summarized in this table:

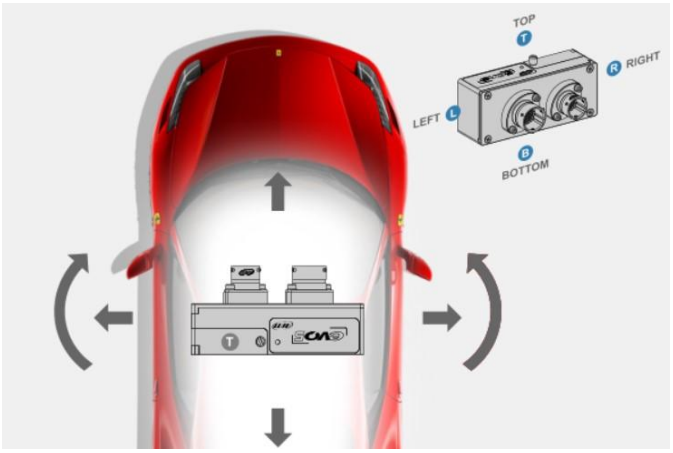
CLASSES	ENGINE			
	Atmospheric	Atmospheric with Restrictor	Turbo, 1 Cylinder bank	Turbo, 2 Cylinder banks
GT3	Evo 5 Kit	EVO5 Kit + 1 PS	Evo5 Kit + 2 PS	EVO5 Kit + 3 PS
GT4				
Other				

* *This is a brief summary, be sure to check the technical regulations before each event.*

3. Possitions

EVO5

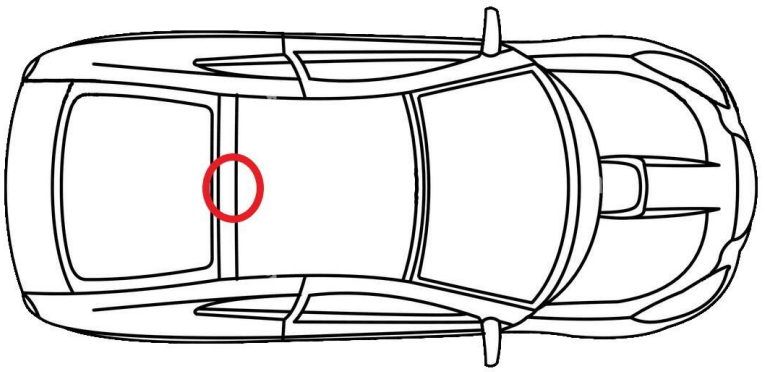
The data logger AIM EVO5 must set at front right side of the car (passenger side). The EVO5 must be place like in the photo below, the connectors must look to the front. We provide the EVO5 holder and this must be fixed in the area previously mentioned by bolts or Velcro (fix in the best possible way to avoid vibrations and then be able to obtain a good data reading).





GPS Antenna

The antenna must be installed on the roof of the vehicle, not inside.



It must be installed away from other antennas, at least 50 cm radius separation between antennas, never like the image:

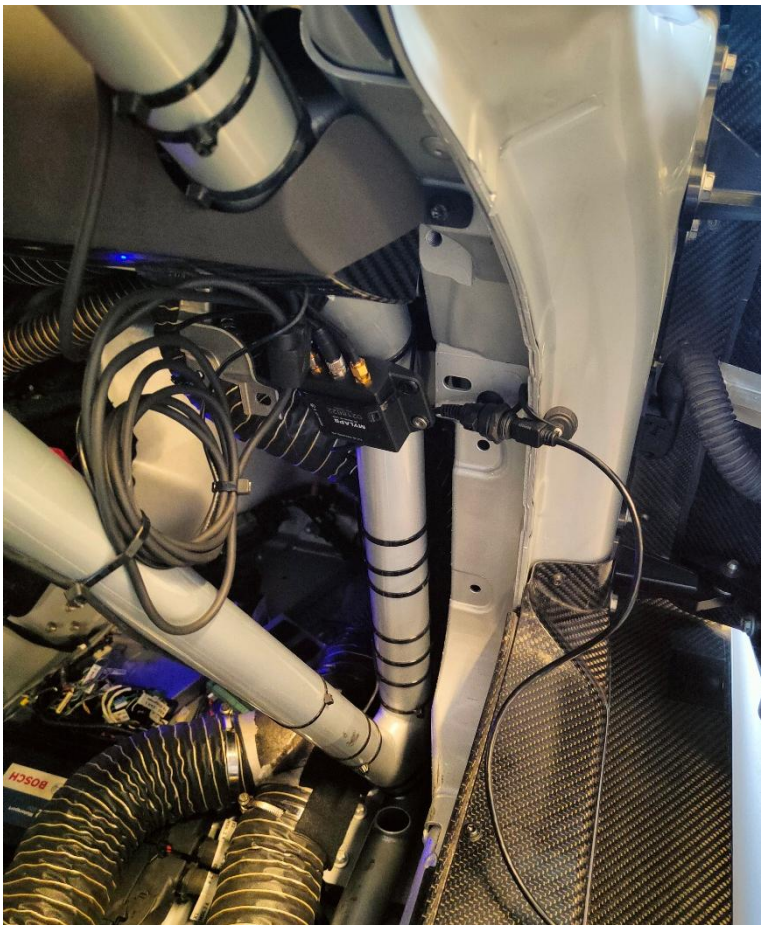


It is important that the wiring does not have any loop, the cable must always be continuous without links.

Micro USB

The placement of the micro USB should be in an accessible place for connection.

It is usually located in the EVO5 holder included in the kit, but it should be installed in a place that facilitates the connection to the scrutineering technicians.



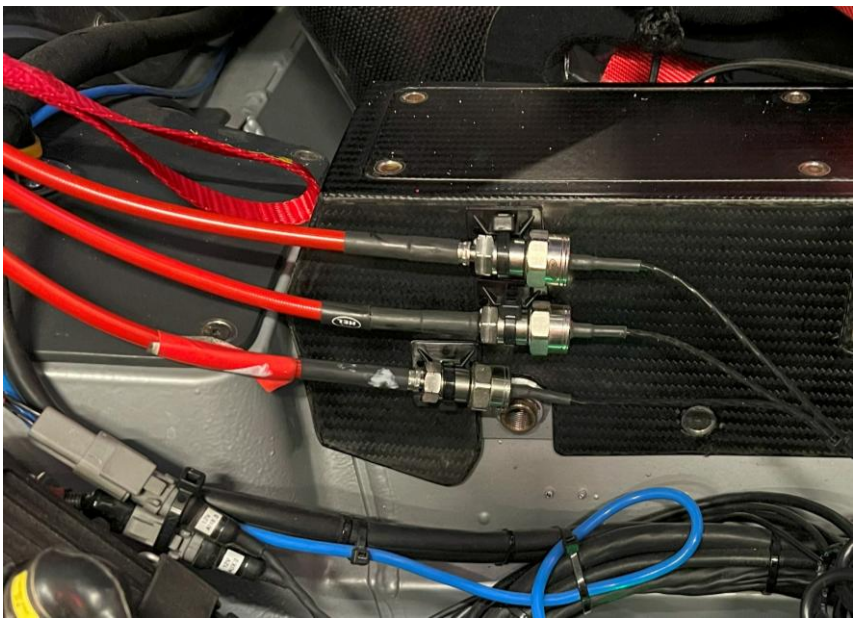
Pressure sensors

Pressure sensors should be placed inside the vehicle.

The tube must be connected in the position indicated by the manufacturer in order to be able to place the pressure sensor at the other end, inside the cockpit.

It is important to fix the pressure sensors to avoid vibrations and bad measurements.





SD card

The SD cards are provided by the Scrutineering but the competitors themselves are responsible to insert correctly the SD card.

For introduce the SD card into the EVO5, you need to unscrew the bolt next to the led situated on the top of EVO5 and raise the small cover, then the card must be inserted until it makes a "click" (if it has not made the "click", turn the card over.



4. Technical Information

AiM Pressure Sensor

To measure intake pressure and turbo pressure, the AIM X05PSA00005B10AK pressure sensor with an absolute range of 0-5 bar must be used.



Technical characteristics	Value
Supply	8-16 V
Accuracy	<±0.5% FS (CLNH-combined non-linearity and hysteresis)
Characterisation	500 mV/-1 bar 450 mV/4 bar
Consumption	<10mA
Temperature working range	from -20°C to 135 °C
Waterproof	IP66
Housing	316 stainless steel
Weight	30g
Cable length	400 mm
Threads	M10

Data logger Pin Out

The EVO5 needs to be connected to the car with a cable (SDL). Every cable, it can be different for each car, depends on the connection that the manufactures have for the Scrutineering.

Therefore, the cable is connected with the EVO5 with a DTM06-6S and to the car with the specific connection for it. As the image.

DTM06-6S	
1 V Battery	Red
2 Ground	Black
3 CAN +	White
4 CAN -	Blue

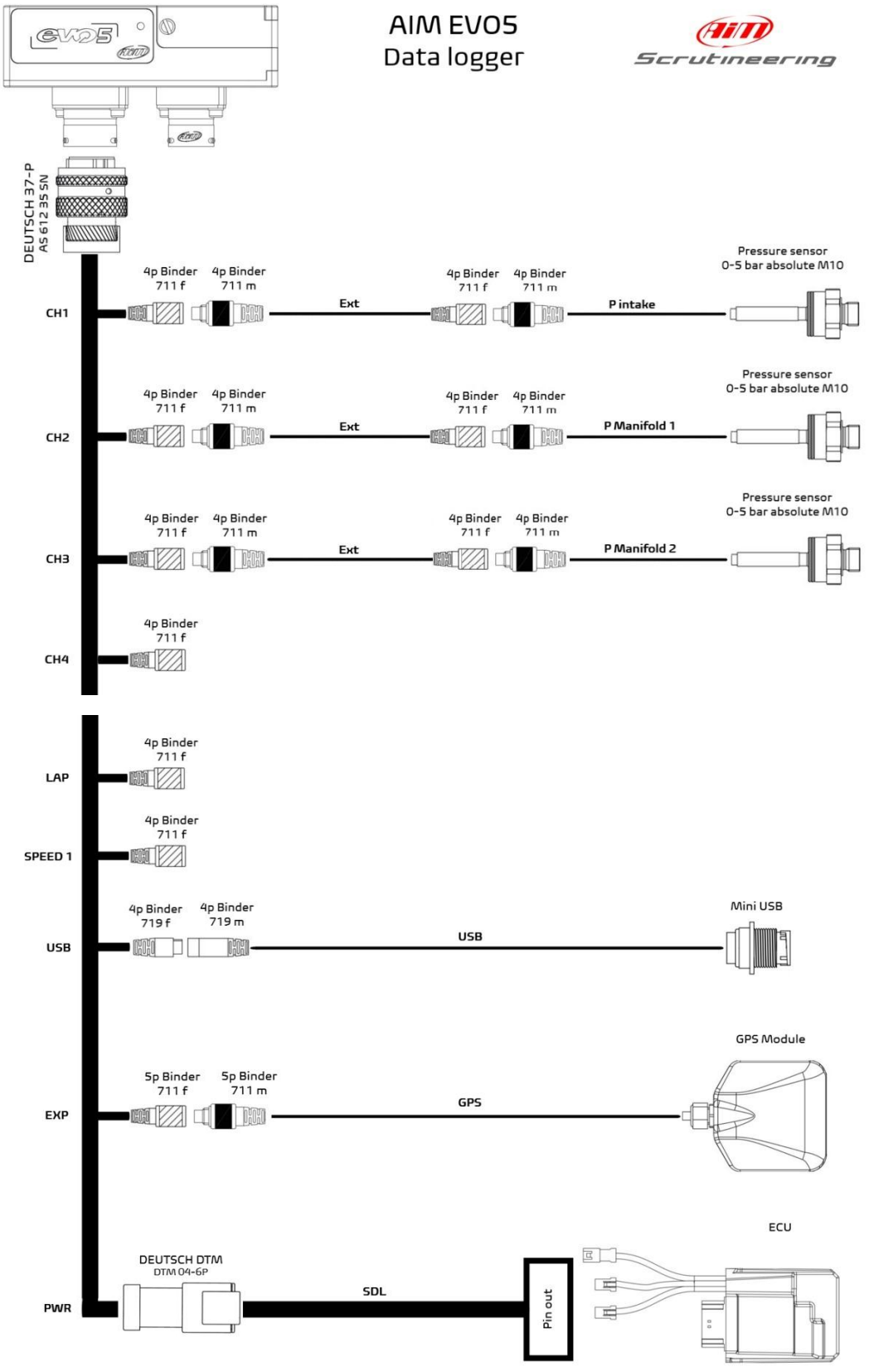
It is very important that the manufacturer informs Scrutineering which connector the car needs because if not, the connexions can be wrong and the EVO5 will not work.

Pressure sensors connection

The pressure sensors must be correctly connected for BoP application. To do this, they must be connected according to the attached table:

Channel name	Description	Notes
Pintake	Pressure upstream of intake system	Connected to Channel 1
Pmanifold 1	Turbo pressure, left side	Connected to Channel 2
Pmanifold 2	Turbo pressure, right side	Connected to Channel 3

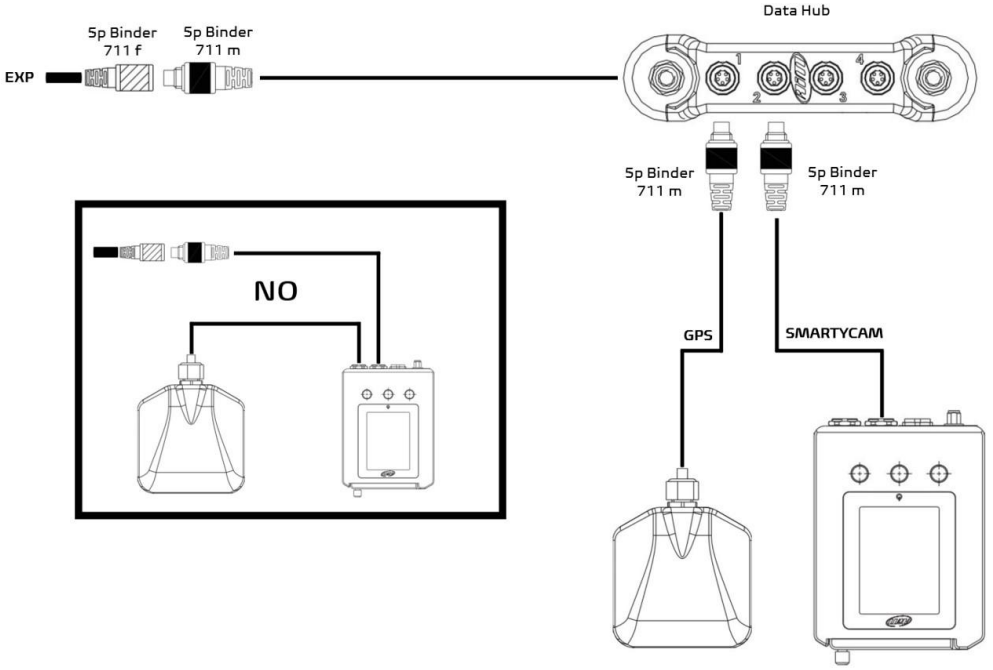
Wiring


AIM EVO5
Data logger
Scrutineering
DEUTSCH 37-P
AS 612 35 SN
CH1
CH2
CH3
CH4
LAP
SPEED 1
USB
EXP
PWR
4p Binder 711 f
4p Binder 711 m
Ext
P intake
P Manifold 1
P Manifold 2
Pressure sensor 0-5 bar absolute M10
4p Binder 719 f
4p Binder 719 m
Mini USB
5p Binder 711 f
5p Binder 711 m
GPS
GPS Module
DEUTSCH DTM
DTM 04-6P
SDL
Pin out
ECU

The EVO5 logger has the possibility to connect an AiM camera, so that the team can join the data with the images.

To connect this camera, a Data Hub is required to add the system to the logger. It is important to connect the GPS to the Data Hub, not directly to the camera, so that the EVO5 can pick up the signal. The camera picks up the GPS information through the EVO5.

SMARTYCAM CONNECTION



The use of the camera is not mandatory in the championship, but if the teams connect it, they must do so as indicated in the image.

5. CAN Specifications

For communication between the car ECU and the logger, a CAN configuration is required that identifies the vehicle's CAN Bus line. For this purpose, it is the manufacturer's obligation to provide the minimum information required by the championship, according to the form:

https://www.aim-scrutineering.com/AIM_Scrutineering_Can_Specifications.xlsx

6. Order sheet

In the following link you can find the price list and the order form to place the order with everything you need

https://www.aim-scrutineering.com/AIM%20_Scrutineering_Order_Sheet.xlsx

If you have any question or inquiry, you can send an email to:

technical@aim-scrutineering.com