AiM InfoTech

Legends Cars – MXm kit

Release 1.05

AiM

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Models and years

This manual explains how to connect AiM MXm to the Legends Cars Engine Control Unit (ECU). Compatible models are:

- Legends Cars (with 3 cylinders Yamaha FZ09 engine)   2018 onwards

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Kit content and part numbers

AiM designed a specific connection kit to the Legends Cars ECU for MXm. Provided harness into this kit allows to read transmitted data from the ECU via RS232 and, at the same time, to power up the system.

The part number of the MXm kit for Legends Cars is: **X87MXM0007**.

The specific MXm kit for Legends Cars includes:
- MXm
- 37pins connector harness for Legends Cars (p.n.: **V02573510**)
- 4pins secondary connector kit for Power Output connection (up to 15A each)
- CD for software installation
- Mini-USB cable for PC connection

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Connection

The specific MXm 37pins Deutsch connector harness for Legends Cars allows to connect to the vehicle battery and ECU directly, through the 8pins white JST connector (labelled "ECU"), and to the on-board gear sensor, through the 6pins white Sumitomo connector (labelled "CH. 1").
Here below, the harness scheme and input functions are available.
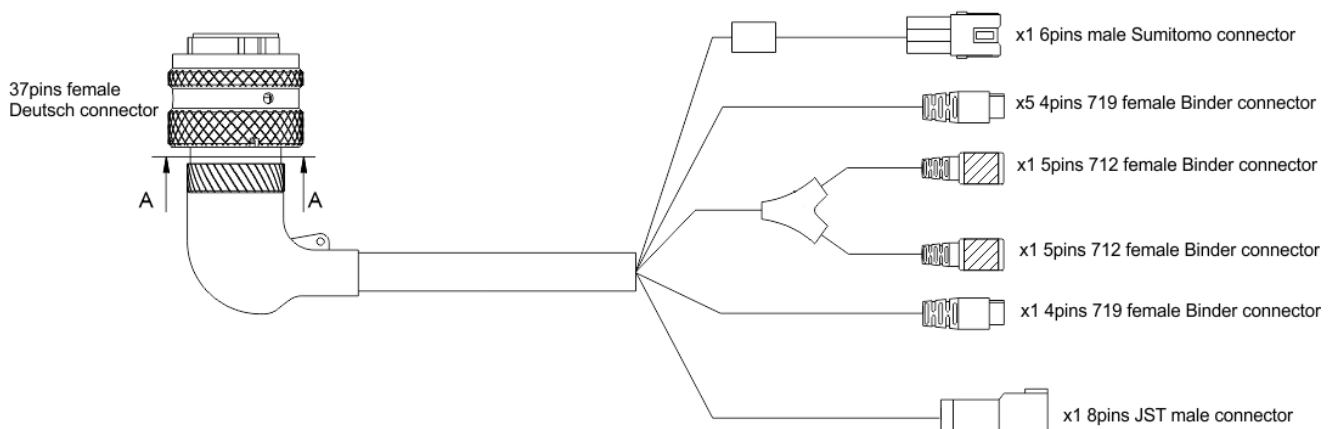
Harness connector	**Function**
• x1 6pins male Sumitomo	On-board gear sensor connection
• x3 4pins 719 female Binder	Analog sensors connection
• x2 4pins 719 female Binder	Speed inputs
• x2 5pins 712 female Binder ("Y" cable)	AiM Expansions connection (labelled "CAN EXP")
• x1 4pins 719 female Binder	USB connection
• x1 8pins JST connector	ECU + external power connection (labelled "ECU")

- To connect to the vehicle ECU, plug the 8pins JST connector to the vehicle harness "J20 DIAGNOSTIC" connector, placed under the front bonnet, near the ECU (see picture on the right).
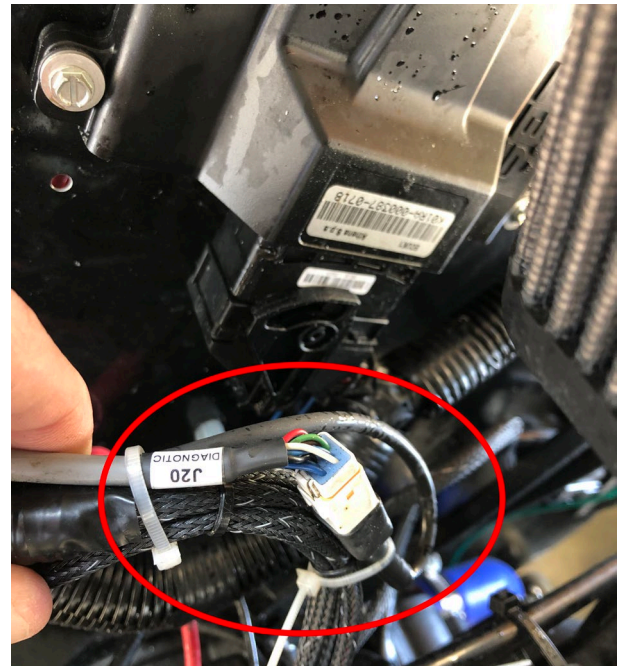
- To connect to the on-board gear sensor, plug the 6pins Sumitomo connector to the vehicle harness 6pins black Sumitomo connector (see picture on the right), placed under the front bonnet, near the front right wheel.

The first analog channel must be used to connect to the on-board gear sensor. The other three MXm analog channels (labelled "CH#") can be used for sensors connection (i.e.: AiM temperature, pressure and position sensors), in order to record additional parameters for driver coaching, chassis analysis and engine monitoring.

The MXm power outputs can be used to command vehicle equipments, such as additional pumps or fans independently from the ECU management.

To know more about MXm technical specs, pinouts and how to configure it through Race Studio 3, refer to the MXm User Guide and to the FAQ/Documentation sections of our website www.aim-sportline.com.

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Race Studio 3 configuration

MXm for Legends Cars are already configured from our factory. The configuration for this specific application is not locked, so all its tabs settings can be modified.
Opening the device configuration, the "ECU Stream" and "Channels" tabs are already set. If the device should be configured from scratch, follow the steps below to set these two tabs:
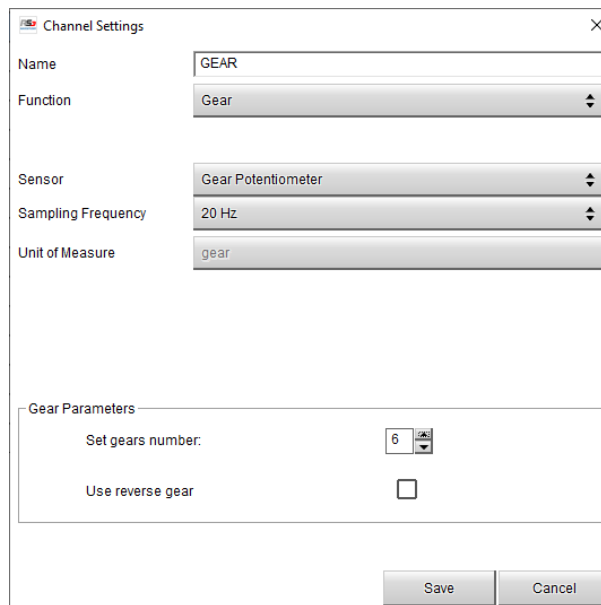
- **ECU Stream:** press "Change ECU" and set "**GET – Legend**" as ECU protocol Manufacturer and Model (following image)

- **Channels:** set the analog channel 1 (labelled "Ch.01") Function as "Gear" and Sensor as "Gear Potentiometer", specifying the maximum number of gears and ticking the "Use reverse gear" box, then transmit the configuration to the device.

Turn on the MXm and connect it to Race Studio 3, enter the Connected Device menu: Live Measures tab will be displayed. Clicking "Calibrate" button , it is possible to read the gears voltage, engaging each of them (following image). Once done, press "Save" and "transmit" to set this new configuration to your MXm.
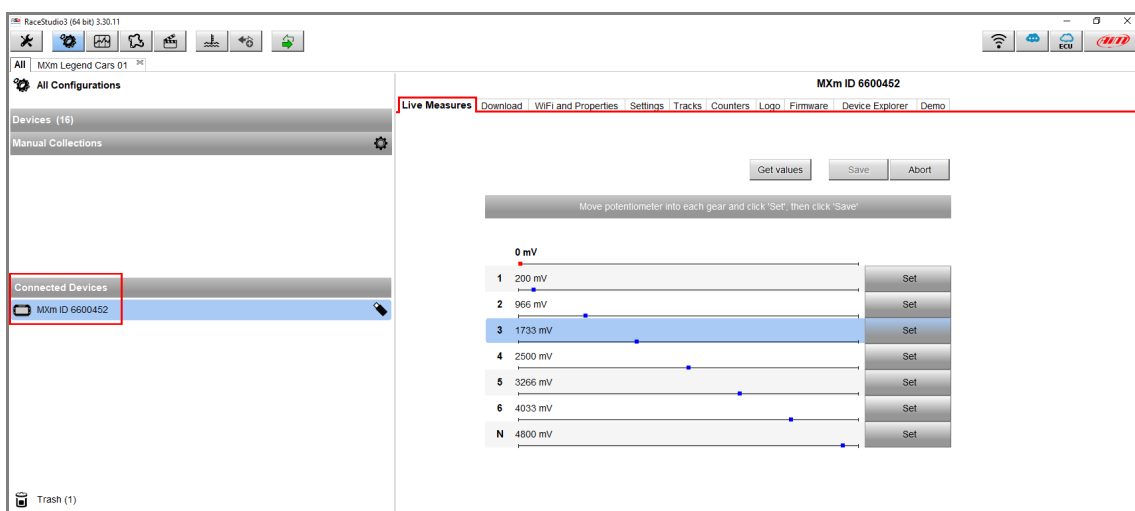
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"GET – Legend" protocol

Received channels by MXm configured with "GET – Legend" protocol are:

CHANNEL NAME	FUNCTION
RPM	RPM
MAP	Manifold air pressure
BAP	Barometric air pressure
Inj1	Injection time 1
Inj2	Injection time 2
Inj3	Injection time 3
Spark1	Sparkplug 1
Spark2	Sparkplug 2
Spark3	Sparkplug 3
TPS	Throttle position sensor
IAT	Intake air temperature
ECT	Engine coolant temperature