

AiM InfoTech

Marelli  
FIA – TCR  
from 2020

Release 1.01

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ECU



# 1 Models and years

This document explains how to connect AiM devices to the vehicle Engine Control Unit (ECU) data stream. Supported models and years are:

- TCR Cupra Leon from 2020 onwards
- TCR Audi RS3 LMS (Gen 2) from 2022 onwards

# 2 Wiring connection

These models feature a specific protocol based on CAN, accessible through the DTM04-6P female connector, located in the right corner at the base of the A pillar/ passenger side. For this installation refer to the following pinout of the DTM connector and its connection table:



| DTM04-6P connector pin | Function        | AiM cable | AiM color cable |
|------------------------|-----------------|-----------|-----------------|
| 1                      | Battery voltage | V Batt    | Red             |
| 2                      | Ground          | GND       | Black           |
| 3                      | CAN High        | CAN +     | White           |
| 4                      | CAN Low         | CAN -     | Blue            |

## 3

# Race Studio configuration

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Before connecting the AiM device to the ECU, set all functions using AiM software Race Studio. The parameters to set in the device configuration are:

- ECU manufacturer: **MARELLI**
- ECU Model: **FIA\_TCR\_Mar\_SC** (Only RS3)  
**FIA\_TCR\_Mar\_2023** (Only RS3)

## 4

# "MARELLI – FIA\_TCR" protocols.

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Two alternative drivers are available for these cars. Differences concern Pedal Position and Steering channels management.

Channels received by AiM devices configured with "MARELLI – FIA\_TCR\_Mar\_SC" protocol are:

| <b>CHANNEL NAME</b> | <b>FUNCTION</b>          |
|---------------------|--------------------------|
| Team RPM            | Engine RPM               |
| Team Gear           | Engaged gear             |
| Team Wsp FL         | Front left wheel speed   |
| Team Wsp FR         | Front right wheel speed  |
| Team Wsp RL         | Rear left wheel speed    |
| Team Wsp RR         | Rear right wheel speed   |
| Team Acc X          | Inline accelerometer     |
| Team Acc Y          | Lateral accelerometer    |
| Team Pbrake F       | Front brake pressure     |
| Team Pbrake R       | Rear brake pressure      |
| Team Steering       | Steering position sensor |
| Team AnaPedal       | Pedal position sensor    |

Channels received by AiM devices configured with "MARELLI – FIA\_TCR\_Mar\_2023" protocol are:



| <b>CHANNEL NAME</b> | <b>FUNCTION</b>          |
|---------------------|--------------------------|
| Team RPM            | Engine RPM               |
| Team SteerAngle     | Steering position sensor |
| Team Gear           | Engaged gear             |
| Team Wsp FL         | Front left wheel speed   |
| Team Wsp FR         | Front right wheel speed  |
| Team Wsp RL         | Rear left wheel speed    |
| Team Wsp RR         | Rear right wheel speed   |
| Team Acc X          | Inline accelerometer     |
| Team Acc Y          | Lateral accelerometer    |
| Team Pbrake F       | Front brake pressure     |
| Team Pbrake R       | Rear brake pressure      |
| Team AnaPedal       | Pedal position sensor    |

**Technical note:** not all data channels outlined in the ECU template are validated for each manufacturer's model or variant; some of the outlined channels are model and year specific, and therefore may not be applicable.