

AiM Infotech

Car/bike magnetic speed sensor

Release 1.03



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Introduction

This datasheet explains how to use AiM car/bike magnetic speed sensor. This is a non contact sensor that needs a metallic trigger to pass in front of it. It is sold with a magnet and the needed locknuts and is available in two versions: with plastic connector (Binder 719) and with metallic connector (Binder 713).

This sensor **part numbers** are:

- Bike speed sensor ending with plastic connector **X02SNVM00**
- Bike speed sensor ending with metallic connector **X05SNVB301**

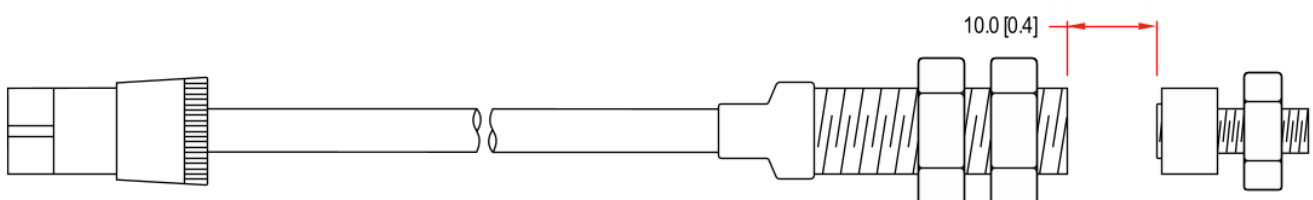
2

Installation

Install the sensor using a bracket and:

- ensure that the distance between sensor and magnet is between 8 and 20 mm (0.31-0.78 inches)
- fix the sensor to the bracket
- connect the sensor to AiM logger

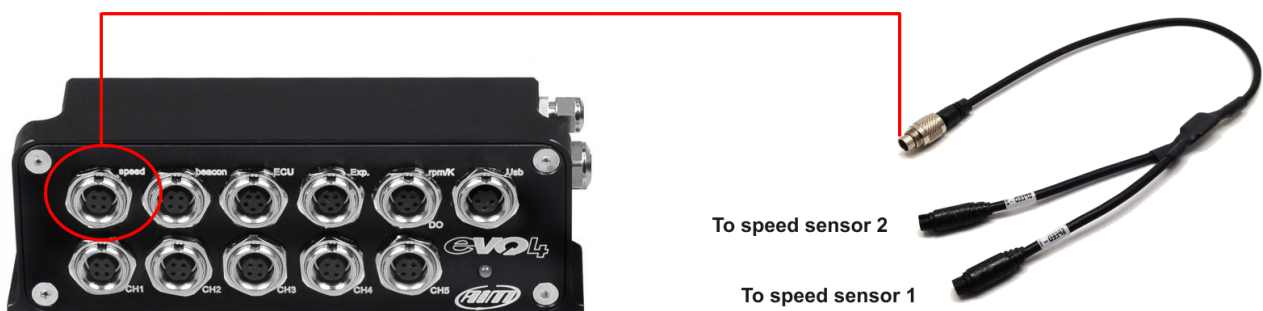
The image here below shows the sensor with its magnet correctly installed.



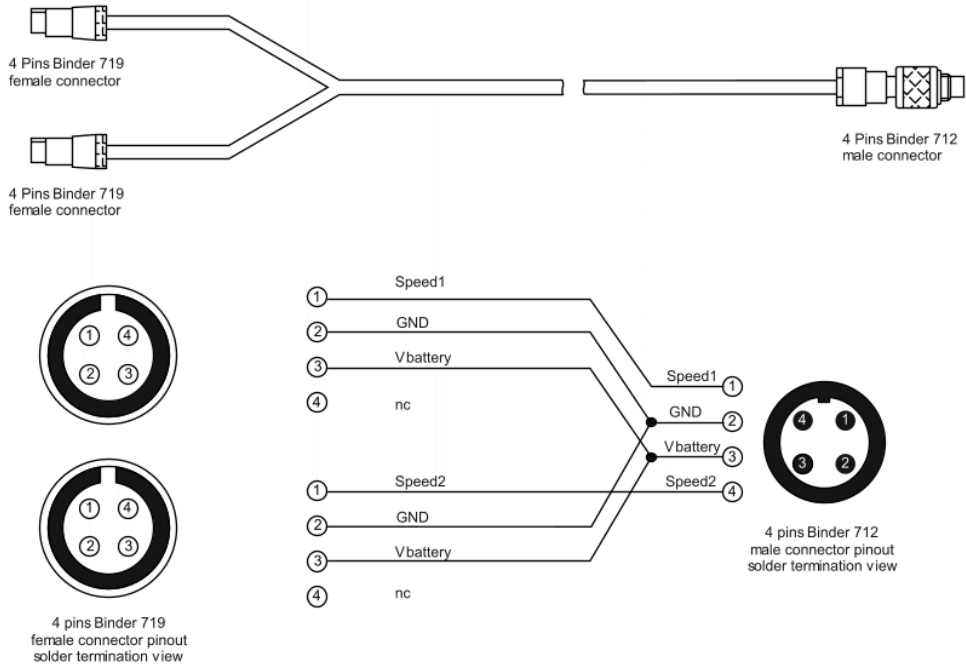
2.1 Specificity of AiM loggers

AiM loggers can support one or more speed sensor.

- **MXL2, MXG and MXS** can support up to four speed sensors: one can be connected to the standard harness (**V02573010**) and the other three to the optional harness (**V02573020**).
- **EVO4** and **EVO4S** can support up to two speed sensors that needs to be connected to the only available dedicated connector labelled Speed. To plug both sensors you need to buy an optional speed split cable like the one shown here below on the right; according to the sensor you are using its part number is:
 - **V02549030** for the split cable featuring two plastic Binder connectors and one metallic to be used for speed sensors ending with a plastic Binder connector (shown below)
 - **V02563100** for the split cable featuring three metallic Binder connectors to be used for speed sensors ending with a metallic Binder connector



Here below is the cable constructive scheme.



MXL Strada/Pista have one only speed channel. Speed sensor is included in the optional basic sensor kit – part number **X10MXLS00000** – that includes RPM and water temperature sensors too. The cable part number is: **V02554020**.

MXL Pro05 has four speed channels. Speed sensors have to be connected to these optional cables:

- part number **V02554200** for speed 1 and 2
- part number **V02554240** for speed 3 and 4.

The harnesses are labelled and the sensors have to be plugged to the cables labelled "Speed".

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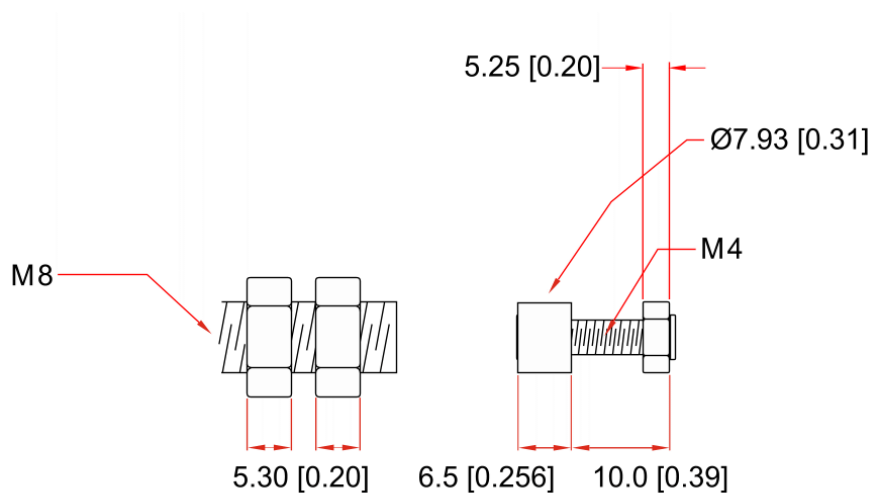
Dimensions, pinout and technical characteristics

The drawings shows:

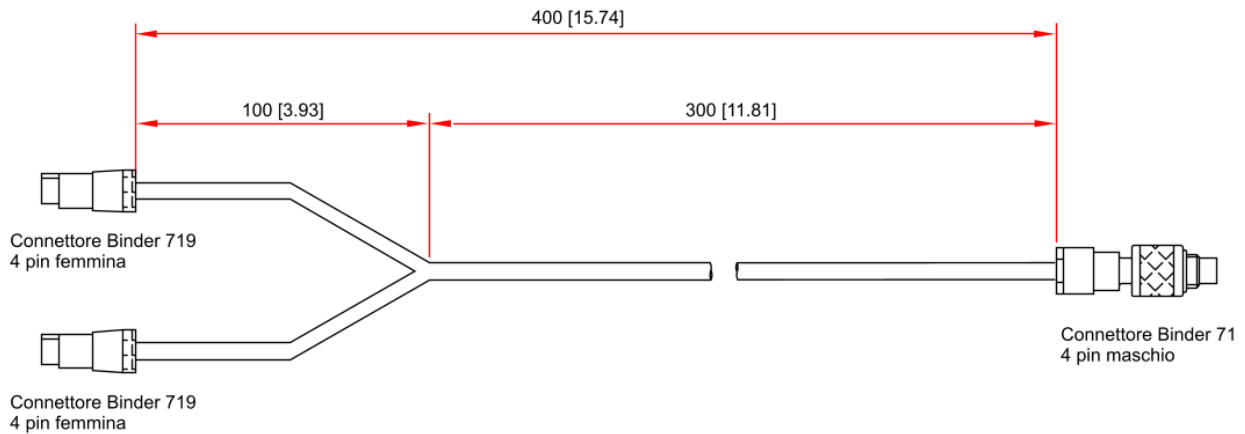
- sensor dimensions in millimetres [inches].



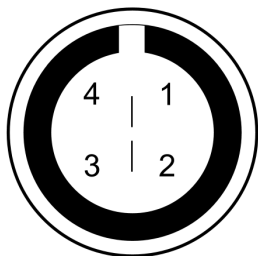
- magnet and locknuts dimensions in mm [inches].



- dimensions of the speed split cable needed to connect two speed sensors to the same speed connector of **EVO4** and **EVO4S** in mm [inches].



The sensor has a cable ending with a 4 pins Binder (719 or 712) male connector. The table below shows the connector – solder termination view – on the left and its pinout on the right.



Binder 719 connector pin

Function

1	Speed
2	GND
3	V battery
4	Not connected

Sensor electrical characteristics:

- power tension: 6-24 VDC
- power supply: 13.5 mA
- output signal type: pulse 0-5 volt
- max current output: 20 mA
- max operating frequency: 100 kHz
- max sensibility distance: 20 mm
- recommended distance: 10 mm
- Number of pulses for wheel revolution: 1

Sensor mechanical characteristics:

- operating temperature range: from – 20 to +85 °C
- cable length: 1700 mm

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Extension cables

The sensor is sold with an 1700 mm cable and optional extension cables are available with standard length: from 0,5m to 3m; specific length extension cables are also available.

Extension cable part numbers changes according to their length and to the device the sensor is to be connected.

Extension cable for connection with **X02SNVM00** sensor (plastic Binder):

- Channel Expansion
- MyChron Expansion
- EVO4
- EVO4S.

Part numbers:

V02PCB05BTXG – cable length: 500mm

V02PCB10BTXG – cable length: 1000mm

V02PCB15BTXG – cable length: 1500mm

V02PCB20BTXG – cable length: 2000mm

V02PCB25BTXG – cable length: 2500mm

V02PCB30BTXG – cable length: 3000mm

Extension cable for connection with **X02SNVM00** sensor (plastic Binder):

- EVO5EVO4S and EVO4 speed split cable
V02549030 (plastic Binder)
- MXL2
- MXG
- MXS
- MXL all versions

Part number:

V02PCB05B – cable length: 500mm

V02PCB10B – cable length: 1000mm

V02PCB15B – cable length: 1500mm

V02PCB20B – cable length: 2000mm

V02PCB25B – cable length: 2500mm

V02PCB30B – cable length: 3000mm



Extension cable for connection with **X02SNVB301** sensor (metallic Binder):

- EVO4S and EVO4 speed split cable **V02549030** (metallic Binder)
- Channel Expansion
- MyChron Expansion
- EVO4
- EVO4S.

Part number:

V02552620 – cable length: 500mm

V02552630 – cable length: 1000mm

V02552640 – cable length: 1500mm

V02552650 – cable length: 2000mm

V02552660 – cable length: 3000mm

