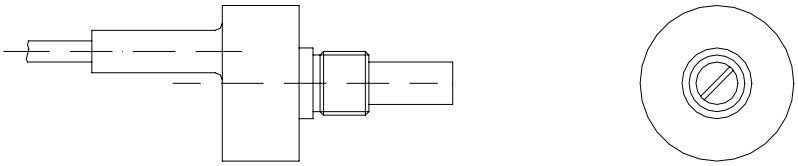


Figure 1: Steering angle potentiometer (side and front view)

Introduction

Aim instruments can measure the relative displacement between two different points using a sensor (potentiometer) directly connected to the two measure points.
This sensor may be used to measure angular displacements, such as:

- Steering column position.

Installation notes

Please, refer to the following drawing in order to correctly install the steering angle potentiometer.

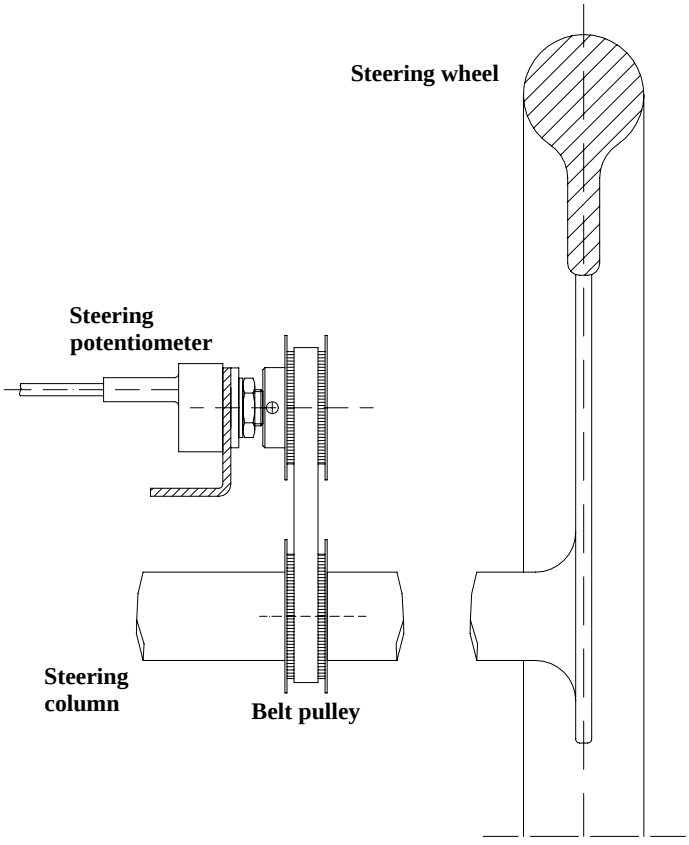


Figure 2: **Steering angle potentiometer** installation

Software

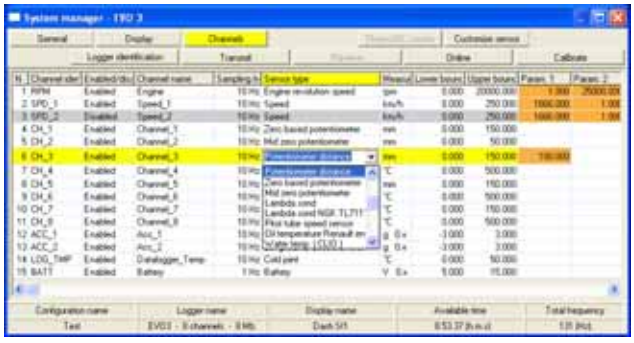
Once the potentiomter has been installed, it needs to be configurated. In order to correctly configure the potentiometer, please use **Race Studio 2**, the software properly developed by Aim to configure its instruments and analyze stored data.

Race Studio 2

In **Race Studio 2** main window you can choose the instrument where to install the potentiometer (EVO 3, Drack, MyChron 3 Gold CAR, MyChron 3 Gold XG…). Please select the gauge and press *"System manager"* button.

Sensor configuration

In *"System manager"* main window, please press "Channels" button to set the sensors you have installed on your vehicle. The following screenshot appears.



To set a sensor, please double-click in the box corresponding to "Sensor type" column and to "Ch_x" row (where x represents the channel number): a pop up menu like the one above appears. You can choose between:

- Zero based potentiometer
- Mid zero potentiometer (recommended)
- Distance potentiometer

Once you have set the correct one, please transmit the configuration to your gauge pressing *"Transmit"* button.

Calibration

Once the configuration has been correctly transmitted to your gauge, the potentiometer needs to be calibrated.
In this datasheet is described **Mid Zero potentiometer** (recommended for steering angle acquisition) calibration.

Please click on "Calibrate" button: this screenshot appears.

Press button *"Calibrate"* corresponding to "Mid Zero potentiometer": this screenshot appears:

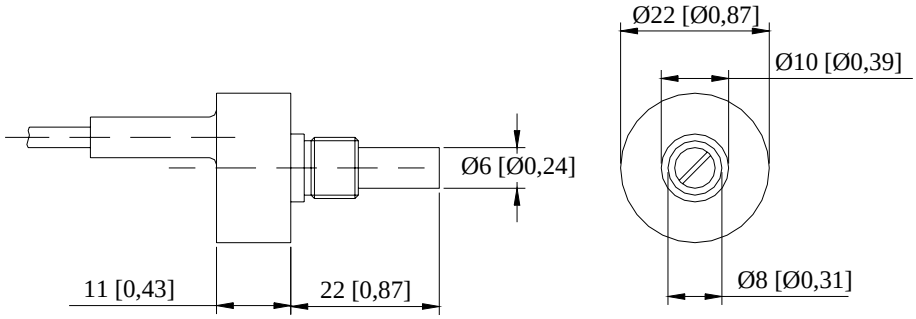
Follow this procedure to correctly calibrate the "Mid Zero potentiometer":

- Turn the steering wheel right and press button "Get raw data" corresponding to "HIGH POSITION";
- Put the steering wheel in central position and press button "Get raw data" corresponding to "ZERO POSITION";
- Turn the steering wheel left and press button "Get raw data" corresponding to "LOW POSITION";
- Insert the values you want to see when the steering wheel is completely turned right (or left);
- Press "OK".

Once the sensor's calibration procedure has finished, press *"Transmit calibration"* button, as shown in this screenshot.

Please note: it is absolutely necessary to transmit the calibration, otherwise the logger will not be able to acquire correct data.

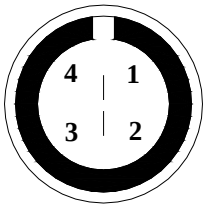
Dimensions



Dimensions in millimeters [inches]

Connector pinout

Pin	Function	Pin	Function
1	Analog signal 0-5 V	3	Not connected
2	GND	4	V reference (4.5 V)



4 pins Binder 719 male connector: solder termination view

Technical characteristics (5 revs)

Electrical characteristics	Value
Application	KART
Nominal Resistance	10 kΩ
Tolerance on resistance value	±5 %
Precision (%)	0.034

Mechanical characteristics	Value
Mechanical travel	1080 ° / 3 revs
Temperature range	From -55 °C to 125 °C
Dissipated power at 40 °C	1.6 W
Dissipated power at 70 °C	1 W

Technical characteristics (10 revs)

Electrical characteristics	Value
Application	CAR
Nominal Resistance	10 kΩ
Tolerance on resistance value	±5 %
Precision (%)	0.030

Mechanical characteristics	Value
Mechanical travel	1800 ° / 5 revs
Temperature range	From -55 °C to 125 °C
Dissipated power at 40 °C	2.4 W
Dissipated power at 70 °C	1.5 W