AiM Infotech

Position sensor
Car steering potentiometer

Release 1.02

This datasheet explains how and where to install the rotating potentiometer, showing its electrical and mechanical characteristics too.

1
Introduction

AiM loggers can measure the displacement between two points using a sensor (rotating potentiometer) directly connected to the two points of measurement. This potentiometer can be used to measure angular displacements such as the steering column position. This is why we normally call it car steering angle potentiometer.

2
The kit

The car steering angle potentiometer kit includes:

- 1 steering angle potentiometer (**1**)
- 1 toothed belt (**2**)
- 2 toothed pulleys (**3**)
- 1 Allen key (**4**)
- 1 bracket kit (**5**)

The kit part number is: **X05SNST10G**

2.1
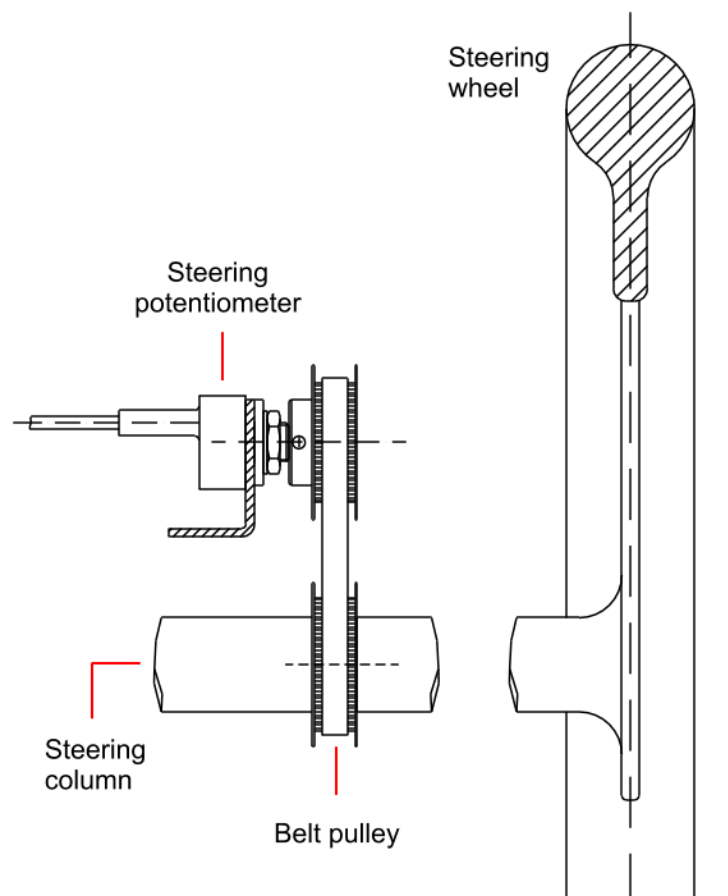## Installation notes

The car steering potentiometer can be connected to any analog channel of MXL, EVO4 and Channel Expansion, to say:

- MXL Strada/Pista: channels from 1 to 8
- MXL Pro05: channels from 1 to 12
- EVO4: channels from 1 to 5
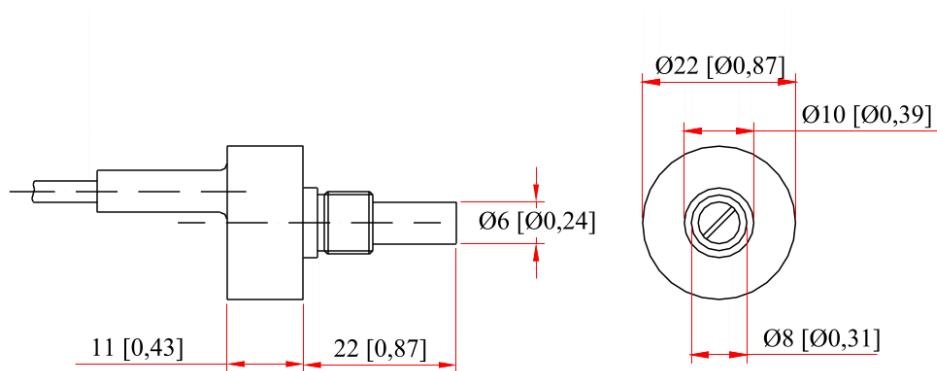- Channel Expansion: channels from 1 to 4

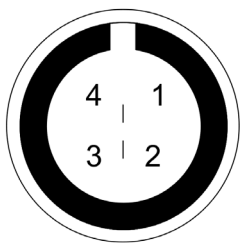The drawing here below shows the potentiometer installed.

3
Dimensions, pinout and technical characteristics

The drawing here below shows the sensors dimensions in mm [inches].

Ø22 [Ø0,87]
Ø10 [Ø0,39]
Ø6 [Ø0,24]
11 [0,43]   22 [0,87]   Ø8 [Ø0,31]

The sensor ends with a 4 pins Binder 719 male connector. The image here below shows the connector from solder insertion side and its pinout.

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

Car steering potentiometer **electrical characteristics** are:
*   nominal resistance: 10kΩ
*   tolerance on resistance value: ±5%
*   precision (%): 0.030

Car steering potentiometer **mechanical characteristics** are:
*   mechanical travel: 1080°/10 revs
*   working temperature range: -55/+125 °C
*   dissipated power at 40°C: 2.4W
*   dissipated power at 70°C: 1.5W

4
Extension cables

The potentiometer is sold with a 30 cm cable and standard lengths extension cables are available as optional: 0,5 m, 1m e 1,5 m; it is also possible to ask for specific length extension cables.

Extension cables part numbers change according to their length and to the device the sensor is to be connected to.

Extension cable for connection with:
- Channel Expansion
- MyChron Expansion
- EVO4.

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:
- MXL Strada
- MXL Pista
- MXL Pro05

Part numbers:
V02PCB05B – cable length: 500mm
V02PCB10B – cable length: 1000mm
V02PCB15B – cable length: 1500mm
V02PCB20B – cable length: 2000mm
V02PCB25B – cable length: 2500mm
V02PCB30B – cable length: 3000mm