

AiM Infotech

Throttle potentiometer

Release 1.02





This datasheet gives you the necessary information to use the throttle potentiometer.

This product **part number** is: **X05SNRP972**

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Introduction

AiM instruments can measure the relative displacement between two different points using a potentiometer, which is a sensor directly connected to the two measure points. This sensor may be used to measure angular displacements, such as throttle position.

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Installation notes

This sensor has been designed to measure rotational displacements between a fixed point, called "reference point", and a movable one.

The first installation step consists in fixing the potentiometer to the chassis using two M3 screws or a self-made iron bracket. Once the sensor mounted on your vehicle, you can connect the rotating cursor to the throttle or to the pedal or to other moving elements.

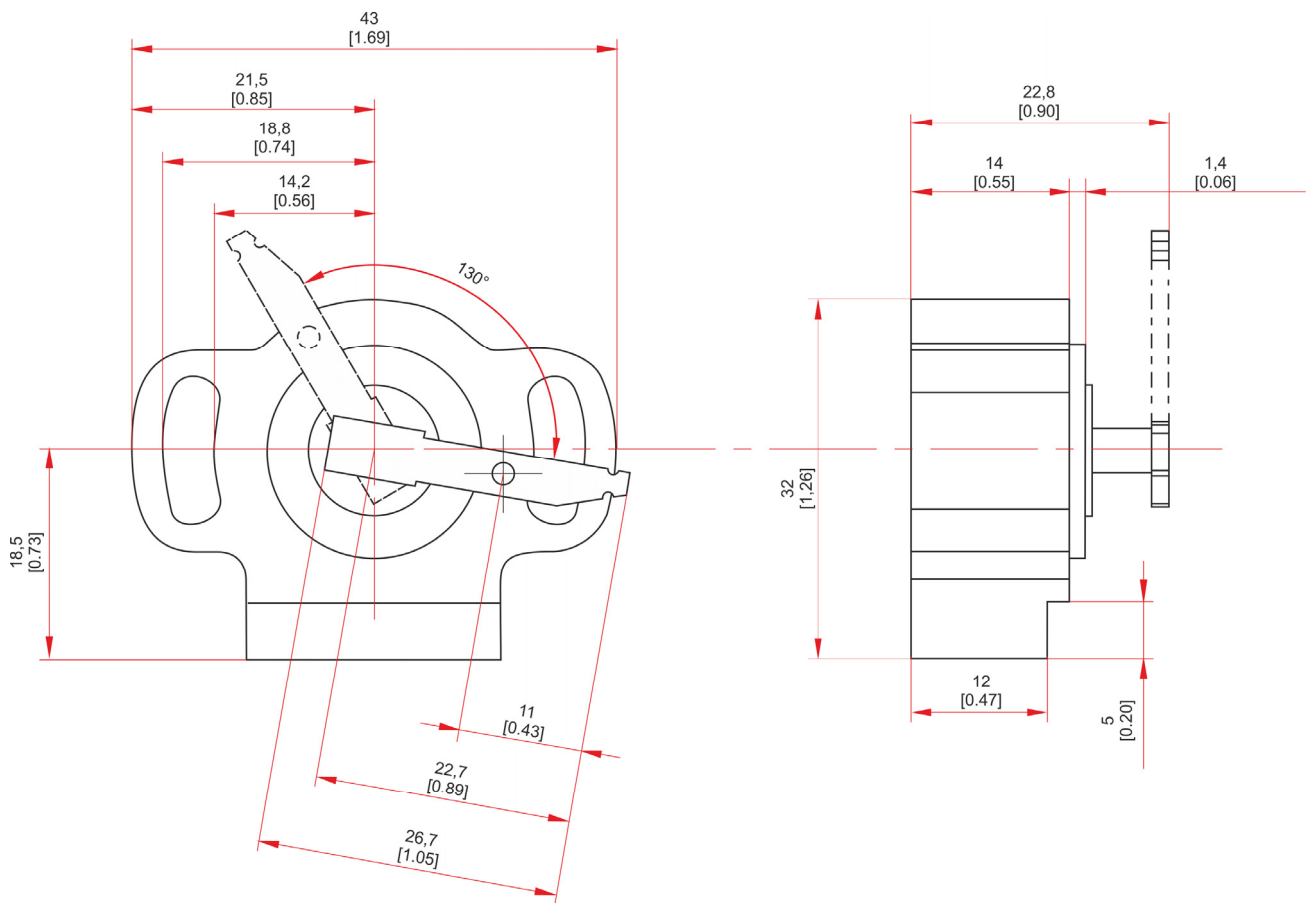
Please ensure that when the throttle is in its "zero position" (i.e. when the throttle is not pressed), the potentiometer is in its "zero position" too and when the throttle is completely pressed, the potentiometer is not in its "upper boundary" position.

This instrument's mechanical measure range goes up to 130°, while the electrical measure range goes up to 106°. **Please, do not exceed the instrument maximum measure range.** If you need to measure bigger displacements, please use a different sensor: an incorrect use may seriously damage the sensor.

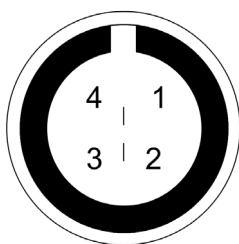
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Dimensions, pinout and technical characteristics

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



The potentiometer ends with a 4 pins Binder 719 male connector. The image below shows the connector pinout from solder termination side.



Binder connector pin

Function

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

The potentiometer **electrical characteristics** are:

- nominal resistance: 5k Ω linear
- tolerance $\pm 20\%$
- linearity $\pm 2\%$
- electrical displacement 106°

The potentiometer **mechanical characteristics** are:

- mechanical displacement 130°
- fatigue life 10⁶ complete cycles
- cable length 240 mm

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Extension cable

The potentiometer comes with a 24 cm cable and standard lengths extension cables are available as optional; 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.

Please note: extension cables are mandatory for connection with AiM Channel Expansion, MyChron Expansion and EVO4.

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

