AiM Infotech

Throttle potentiometer

Release 1.04

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Introduction

This datasheet explains how to install the throttle potentiometer for car/bike and shows its technical characteristics.

The throttle potentiometer **part number** is: **X05SNRP972**

AiM instruments can measure the relative displacement between two different points using a sensor (rotary potentiometer) 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

The 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 in its "high" 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.
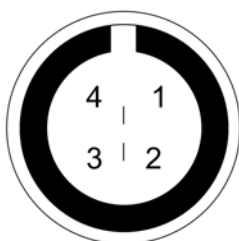
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Dimensions, pinout and technical characteristics

The drawing here below shows the throttle potentiometer dimensions in mm [inches].
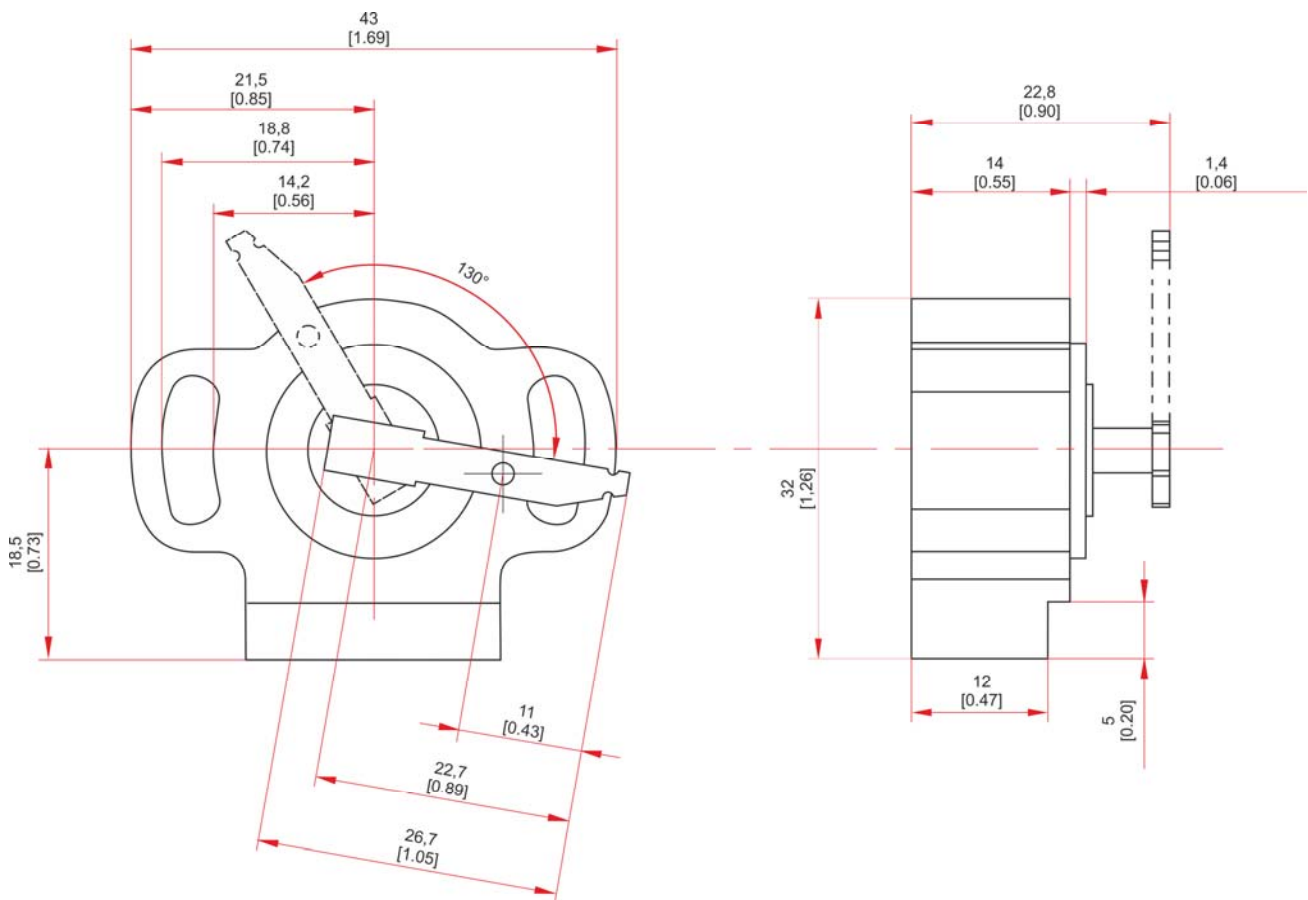
The potentiometer cable ends with a 4 pins Binder 719 male plastic connector. The image here below shows the connector pinout from solder termination view.

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

The potentiometer **electrical characteristics** are:

- nominal resistance: 5kΩ linear
- tolerance ±20 %
- linearity ±2 %
- electrical displacement 106°

The potentiometer **mechanical characteristics** are:

- mechanical displacement 130°
- fatigue life 10^6 complete cycles
- cable length 240 mm

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Extension cables

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 and EVO4.

Extension cable for connection with:
- EVO4
- EVO4S
- Channel Expansion

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:
- MXG
- MXS
- MXL2
- EVO5
- MXL Pista/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