

## SA-WPxxxxHQ-000

## Wire potentiometer

### Function

- Wire potentiometer's are designed to convert linear movement into a proportional voltage output using a simple 3-wire, low current operating circuit.

### Usage

- To measure linear motions, e.g. front fork or steering



### Technical specifications

#### Electrical characteristics

Measurement ranges..	76 / 225 / 380 / 760 mm
Input resistance.....	10k Ω
Supply voltage (2D system).	5 V dc
Maximum supply voltage.....	30 V dc or ac
Accuracy.....	±0.25 % FS
Repeatability.....	±0.02 % FS
Resolution.....	essentially infinite

#### Vibration resistance

Maximum acceleration.....	136 G
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#### Calibration



Use the formulas on 2<sup>nd</sup> page to calculate the physical values.

#### Mechanical characteristics

Housing material.....	anodized aluminium
Weight (w/o cable).....	165 g
Connector	Standard..... Binder 719 5PM
	Options..... on request
Mounting bracket.....	2-axis 360 °

#### Environmental

Operating temperature.....	-40 to +125 °C
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#### Life time

min. spring cycle-life.....	25000
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#### Maximum stress

Measuring cable tension.....	9.2 N
with a deviation of.....	± 1.7 N

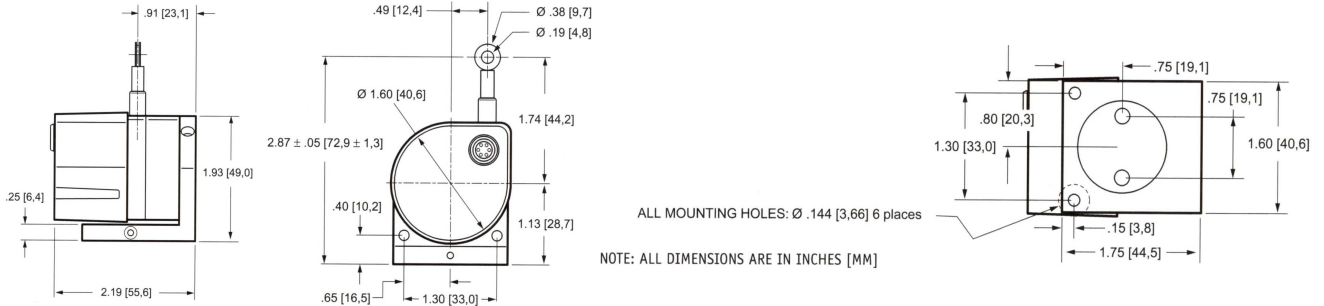
#### Ordering information

Art.No.:..... SA-WPxxxxHQ-000  
 see order code on 2<sup>nd</sup> page for more details

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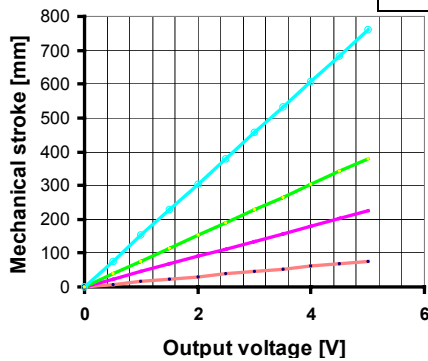
## Wire potentiometer

### Dimensions



### Formulas

	SA-WPxxxx-000	Multiplier				Offset		
12 Bit A/D	Stroke [mm]	=	xxxx / 4095				* Digits	- 0
16 Bit A/D	Stroke [mm]	=	xxxx / 65535				* Digits	- 0
Voltage*)	Stroke [mm]	=	15.2	45	76	152	* Volt	- 0
			SA-WP0076	SA-WP0225	SA-WP0380	SA-WP0760		



\*) You can use the "voltage formula" only, if the voltage supply of the sensor is +5V  
 In case of other sensor supplying, you must use the following general formula to calculate the physical value:  
 $Stroke[mm] = \frac{xxxx}{voltage\ supply} * Volt - 0$   
 Remark: Replace the **xxxx** with the mechanical stroke of your sensor:  
 → Possible values are 76, 225, 380 and 760 mm (other values on request)

### Installation advice

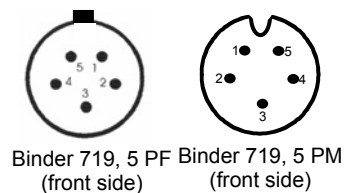


**Spring loaded cable:**  
 Avoid free-release of cable ! Prevent over-range of cable !

### Connector layout

Pin	Name	Description	Color (standard)	Color (alternative)
1	AGND	Analog Ground	black	or brown
2	Power	Power supply	red	or white
3	n.c.	Not connected	-	-
4	n.c.	Not connected	-	-
5	Signal	Analog signal	white	or green

### Mating plug Plug at sensor



Please note: Possible options on customer request  
 For the first order of special customer options please use the following order code: **SA-WPxxxxHQ-000**  
 After the first order you will get from 2D a uniquely order code for your next orders.

### Ordering information

mechanical stroke	order code
76 mm	/ SA-WP-0076HQ-000
225 mm	/ SA-WP-0225HQ-000
380 mm	/ SA-WP-0380HQ-000
760 mm	/ SA-WP-0760HQ-000