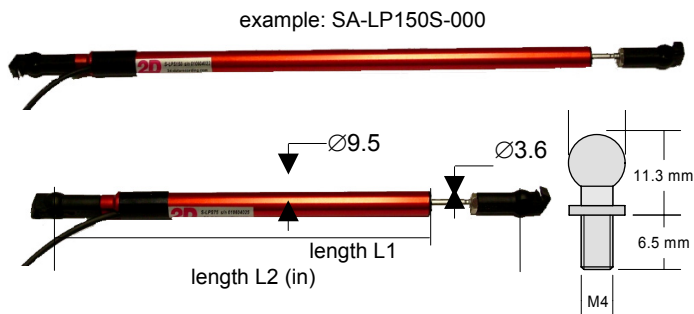


SA-LPxxxS-000

Linear potentiometer slim body

Features

- Linear potentiometer's are designed to convert linear movement into a proportional voltage output using a simple 3-wire, low current operating circuit-
- Particularly developed for motorcycling
- Simple assembly by using "Pop Joints" to suit 6mm balls
- Very good relationship between size, weight and stroke:
 - Very small body (9.5mm Ø)
 - Small weight (20-44g)
 - Possible measuring ranges of: 12.5 up to 150mm (on request)
- Vibration-resistant by using absorbed sliders
- Suitably for rough environment



electrical stroke	length L1	length L2 (in)	length L2 (out)
75	151	175	250
150	236	260	410

all values in [mm]; Tolerance ± 1mm

Technical specifications

Electrical characteristics

Possible mechanical strokes.....	75 / 150 mm
Impedance.....	7.5 / 10 kΩ
Supply voltage (2D system).....	5 V DC
Maximum supply voltage.....	42 V DC
Linear output voltage.....	Yes
Linearity.....	± 0.5 %
Isolation (500 V DC).....	> 100 MΩ
Recommended "slider current".....	< 10 μA

Vibration resistance

Shock.....	40 G
during a time period of.....	10 msec
Vibration tested at.....	12 G
with.....	1000 Hz

Calibration

Use the formula on 2nd page to calculate the physical values

Mechanical characteristics

Dimensions	diameter Ø.....	9.5 mm
	length L2 (in).....	102.5 - 260 mm
Weight (dependent from type)		20 - 44 g
Cable & Connector (standard)	type.....	Raychem 55M
	wire cross section.....	3 x AWG 24
	length.....	500 mm
	connector.....	Binder 719 5PM
Cable & Connector (options)		on request
Operation life.....		> 25 millions cycles
Maximum moving speed.....		10 m/sec

Environmental

Sealing class.....	IP 67
Operating temperature.....	-30 to +140 °C
Humidity.....	5 to 95 %

Ordering information

Art.No.:..... SA-LPxxxS-000

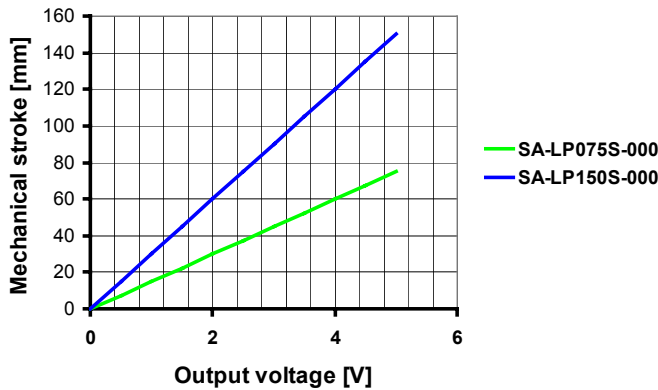
SA-LPxxxS-000

Linear potentiometer slim body

Formulas

	SA-LPxxx-000	Multiplier		Offset	
12 Bit A/D	Stroke [mm]	=	xxx / 4095	*	Digits - 0
16 Bit A/D	Stroke [mm]	=	xxx / 65535	*	Digits - 0
Voltage*)	Stroke [mm]	=	15	30	* Volt - 0
			SA-LP075	SA-LP150	

Remark: Replace the xxx with the mechanical stroke of your sensor



*) 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:

$$\text{Stroke[mm]} = \text{xxx} / \text{voltage supply} * \text{Volt} - 0$$

xxx = mechanical stroke 75 or 150

Installation advice

- Metal heads with thread Mx4 are fixed to e.g. diving tube and fork bridge. The potentiometer is simply plugged onto the metal heads.
- Make sure that the potentiometer moves easily.
- Do not stress the potentiometer over its end position.
- To avoid water entering the housing, mount the grinder bar facing downwards.

Connector layout

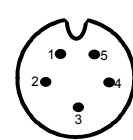
	Pin	Name	Description	Color (standard)	Color (alternative)
Analog-line Binder 719, 5pin	1	AGND	Analog Ground	black	or brown
	2	Power	Power supply	red	or white
	3	n.c.	Not connected	-	-
	4	n.c.	Not connected	-	-
	5	Signal	Analog signal	white	or green

Connector type

Mating plug Connector at sensor



Binder 719, 5 PF
(front side)



Binder 719, 5 PM
(front side)



Possible options concerning connector and cable on customer request !

Please note:

For the first order of special customer options please use the following order code: **SA-LPxxxS-000**. Replace the xxx with the range of your sensor. After the first order you will get from 2D a uniquely order code for your next orders.

Ordering information

Mechanical stroke	Order code	
75.0 [mm]	/ SA-LP075S-000	standard (on stock)
150 [mm]	/ SA-LP150S-000	standard (on stock)

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