

## LPPS-MSL SPRING LOADED LINEAR POTENTIOMETER POSITION SENSOR

Miniature Spring Loaded Linear Position Sensor

### FEATURES

- Compact lightweight design
- Cost-effective measuring system
- Stroke lengths from 5 to 100 mm (0.2 to 4 inches)
- Industrial duty, liquid and corrosion resistant
- Spring extend design for ease of mounting

### APPLICATIONS

- Motorsport and Automotive R&D Testing
- Industrial Test Stands
- Factory Automation



### OVERVIEW

The Sensor Connection LPPS-MSL series spring loaded Linear Potentiometer Position Sensors are used to monitor and track the linear motion or position of a target. These ruggedized sensors are ideal for use in industrial and laboratory applications including automotive R&D, motorsports, industrial, motion control, medical, military and aerospace.

Resistive potentiometric element is made from conductive plastic. The output is ratiometric; from 0% to 100% of excitation voltage.

The LPPS-MSL series sensor is made from industrial duty materials for resistance to dust, temperature, shock, and vibration.

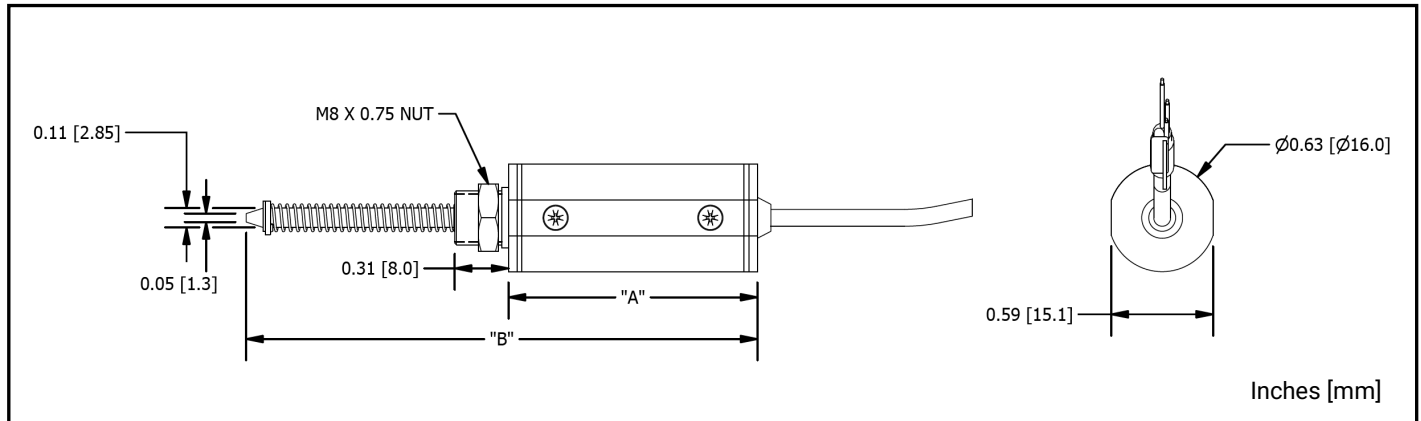
### SPECIFICATIONS

<b>Output:</b>	0 to 100% of Input Voltage (potentiometer circuit)
<b>Non-Linearity, Full Stroke:</b> Best Fit Straight Line (BFSL)	$\leq \pm 2.5\%$ of FSO
<b>Resolution:</b>	Infinite
<b>Repeatability:</b>	0.01 mm (0.0004 inch)
<b>Element Type:</b>	Conductive Plastic
<b>Operating Current:</b>	Input Voltage / Potentiometer Resistance Value (refer to chart on Page 2 for Resistance Value)
<b>Operating Temperature:</b>	-40 to +95°C (-40 to +203°F)
<b>Temperature Coefficient:</b>	$\leq \pm 0.03\%$ of FS / °C
<b>Life Expectancy:</b>	2.5 million full cycles (typical)
<b>Shock Rating:</b>	50g (single hit) / IEC68-2-29
<b>Vibration Rating:</b>	20g / IEC68-2-6
<b>IP Rating:</b>	IP61

# LINEAR POSITION SENSOR

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### SPECIFICATIONS

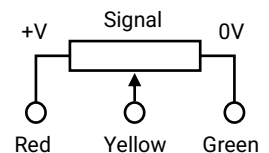
	LPPS-MSL-005	LPPS-MSL-015	LPPS-MSL-025	LPPS-MSL-050	LPPS-MSL-075	LPPS-MSL-100
Electrical Stroke Length (inch) [mm]	0.20 [5]	0.60 [15]	1 [25]	2 [50]	3 [75]	4 [100]
Mechanical Stroke Length (inch) [mm]	0.35 [9]	0.75 [19]	1.15 [29]	2.13 [54]	3.11 [79]	4.09 [104]
Pretravel (inch) [mm] <i>nominal</i>	0.08 [2]	0.08 [2]	0.08 [2]	0.08 [2]	0.08 [2]	0.08 [2]
Overtravel (inch) [mm] <i>nominal</i>	0.08 [2]	0.08 [2]	0.08 [2]	0.08 [2]	0.08 [2]	0.08 [2]
Resistance $\pm 20\%$ ( $\Omega$ )	3.0K	3.0K	2.0K	5.0K	5.0K	5.0K
Max Input Voltage (VDC)	24	24	24	36	36	36
Dimension 'A' (inch) [mm]	1.46 [37]	1.85 [47]	2.24 [57]	3.31 [84]	4.29 [109]	5.28 [134]
Dimension 'B' (inch) [mm]	2.99 [76]	3.78 [96]	4.57 [116]	6.54 [166]	8.94 [227]	11.26 [286]
Spring Rate (lbf/in) [kgf/cm] <i>nominal</i>	1.0 [0.18]	1.5 [0.27]	1.5 [0.27]	1.0 [0.18]	1.5 [0.27]	1.0 [0.18]
Weight (grams)	23	28	30	40	50	60

### ORDERING INFORMATION

Model	Measuring Range
LPPS - MSL	- □ □ □
005	5 mm [0.2 inch]
015	15 mm [0.6 inch]
025	25 mm [1 inch]
050	50 mm [2 inch]
075	75 mm [3 inch]
100	100 mm [4 inch]

### WIRING PIN OUT

	Integral Cable
DC Power In	Red
Output	Yellow
Ground	Green



**IMPORTANT !**  
DO NOT CONNECT THE YELLOW WIRE TO POWER SUPPLY  
THIS WILL CAUSE DAMAGE TO THE SENSOR

### ORDERING EXAMPLE

LPPS-MSL-100: 0 to 100 mm [4 inch] measuring range