

# SP1

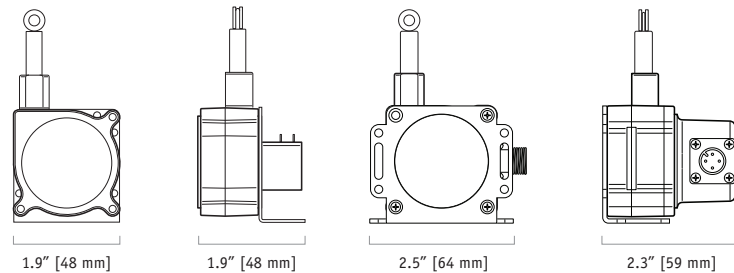
## Compact String Pot • Voltage Divider Output

Linear Position to 50 inches (1270 mm)

Rugged Polycarbonate Enclosure • IP67 Optional

Mounting Bracket & Optional Sensor Cover w/Connector

**IN STOCK for Quick Delivery!**



### COMPLETE SPECIFICATIONS

Full Stroke Range Options	0-4.75, 0-12.5, 0-25, 0-50 inches
Output Signal	voltage divider (potentiometer)
Accuracy	±0.25 to ±1.00% (see ordering info)
Repeatability	± 0.05% full stroke
Resolution	essentially infinite
Measuring Cable	0.019-in. dia. nylon-coated stainless steel
Measuring Cable Tension	7 oz. (1.9 N) ±25%
Maximum Cable Acceleration, SP1-xx	15 g
Maximum Cable Acceleration, SP1-xx-3	13 g
Enclosure Material	polycarbonate
Sensor	plastic-hybrid precision potentiometer
Weight, max. (includes bracket)	.4 lbs (.19 kg)

### ELECTRICAL

Input Resistance	10K ohms, ±10%
Power Rating, Watts	2.0 at 70°F derated to 0 at 250°
Recommended Maximum Input Voltage	30 V (AC/DC)
Output Signal Change Over Full Stroke Range	94% ±4% of input voltage
Electrical Connection, SP1-xx	solder terminals
Electrical Connection, SP1-xx-3	4-pin, M12 connector

### ENVIRONMENTAL

Enclosure	IP 50 (SP1-xx), IP67 (SP1-xx-3)
Operating Temperature, SP1-xx	0° to 160°F (-18° to 70°C)
Operating Temperature, SP1-xx-3	-40° to 160°F (-40° to 70°C)
Vibration	up to 10 g to 2000 Hz maximum

20630 Plummer Street • Chatsworth, CA 91311  
tel: 800.423.5483 • +1.818.701.2750 • fax: +1.818.701.2799



This compact stringpot with “voltage divider” output, provides the ultimate in ease-of-use and flexibility for measurement ranges up to 50 inches. Made of rugged polycarbonate, the SP1 fits in small spaces, doesn’t need perfect alignment and ships with a stainless steel mounting bracket to let the user easily orient this sensor in just about any direction imaginable.

The SP1 comes in two different versions: one complete with a connector, mating plug and sensor cover to protect against IP67 (wet) environments and the other, a lower cost, open sensor design priced for both the budget conscious single piece user and the OEM alike.

### ORDERING INFORMATION

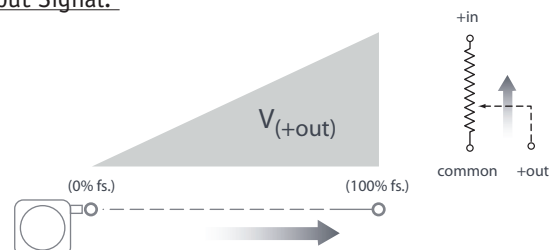
full stroke range	Part No.	Part No.	accuracy	cycle life
4.75 in (120 mm)	<b>SP1-4</b>	<b>SP1-4-3</b>	1.00%	2.5M
12.5 in (317 mm)	<b>SP1-12</b>	<b>SP1-12-3</b>	.25%	500K
25 in (635 mm)	<b>SP1-25</b>	<b>SP1-25-3</b>	.25%	500K
50 in (1270 mm)	<b>SP1-50</b>	<b>SP1-50-3</b>	.25%	250K

### optional cordset



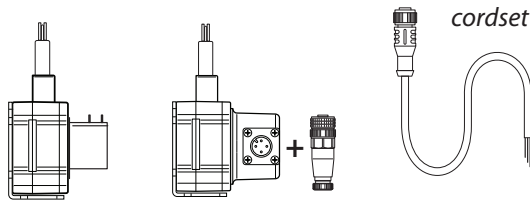
Part No. **9036810-0040** 4-pin M12 connector, 13 ft (4 m), 22 AWG (.34mm<sup>2</sup>)  
For all SP1-xx-3 versions, an optional convenient 13-ft. long cordset is available for short-run connections.

### Output Signal:



celesco.com • info@celesco.com

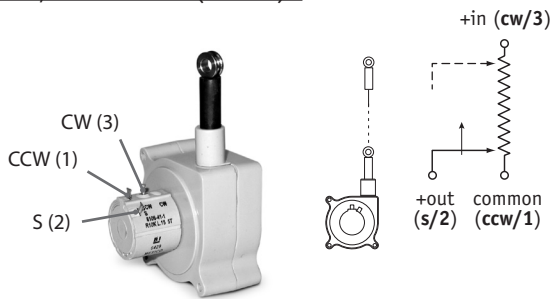
Electrical Connection:



**Signals**

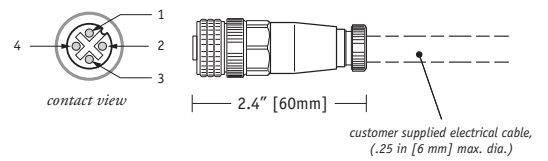
	solder terminals	pin	pin - colorcode
+in	#3 (cw)	1	1 - brown
common	#1 (ccw)	2	2 - white
+out	#2 (s)	3	3 - blue
n/c		4	4 - black

Terminal/Pin Location (SP1-xx):

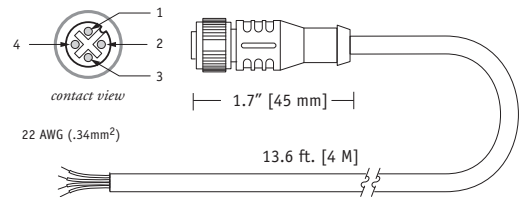


Connector/ Cordset (SP1-xx-3):

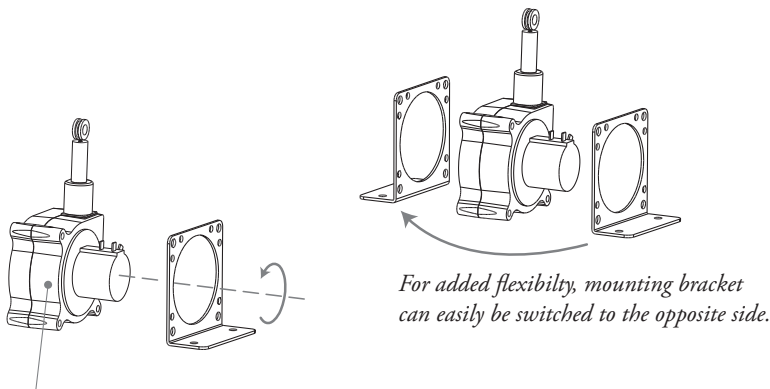
field installable connector (included)



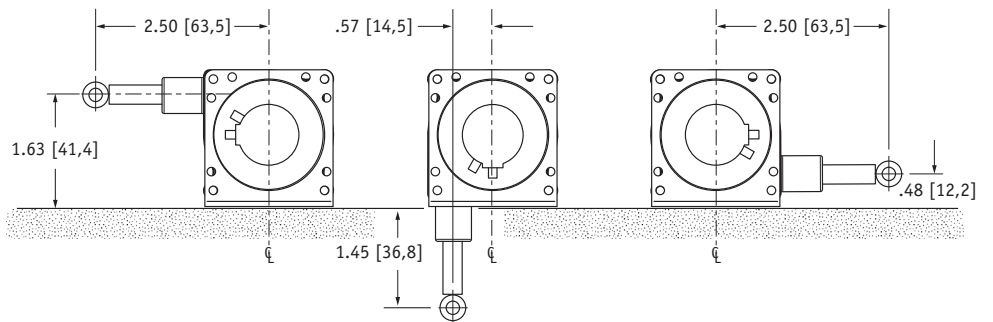
cordset, part no. 9036810-0040 (optional)



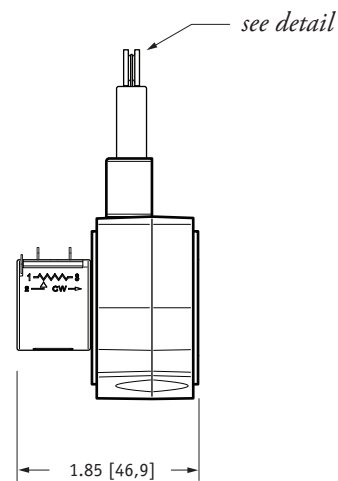
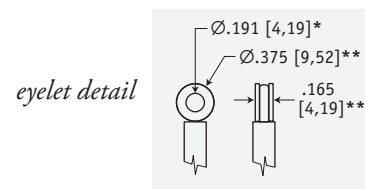
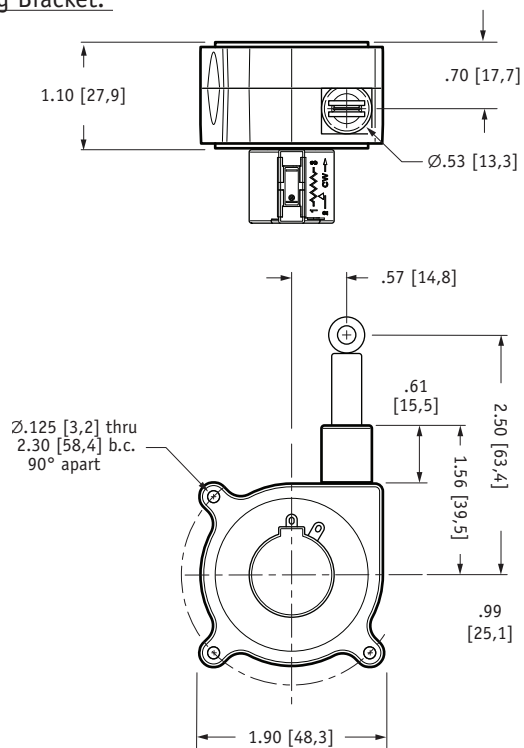
Mounting Options for SP1-xx:



*To change measuring cable direction simply remove the 3 bracket attaching screws and rotate sensor body to desired direction.*



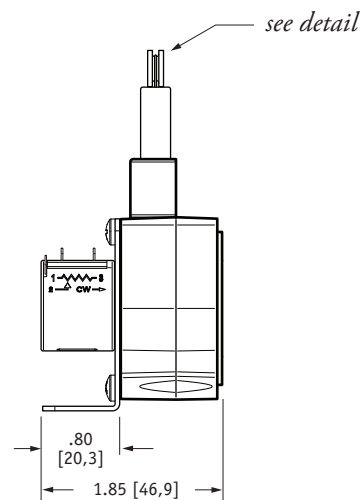
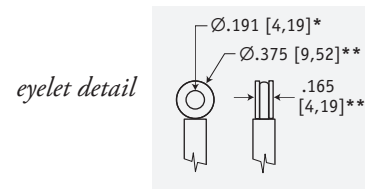
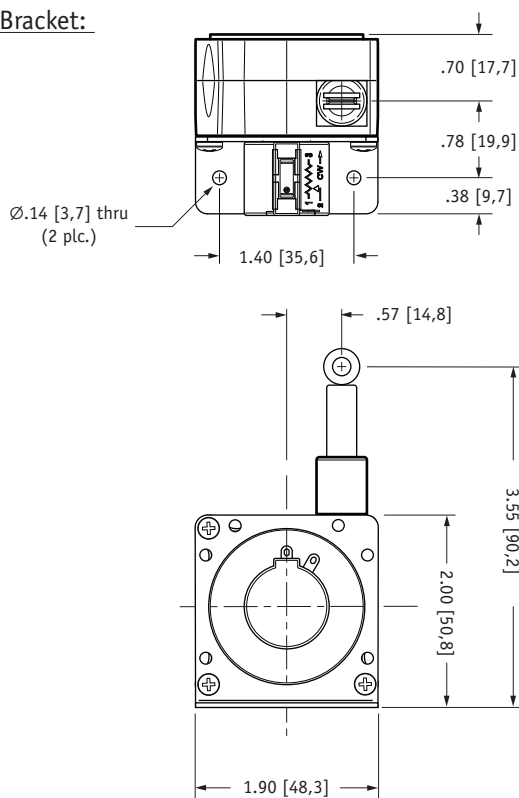
SP1-xx w/o Mounting Bracket:



DIMENSIONS ARE IN INCHES [MM]  
tolerances are 0.04 IN. [1,0 MM] unless otherwise noted.

\* tolerance = +.005 - .001 [+0,1 -0,0]  
\*\* tolerance = +.005 - .005 [+0,1 -0,1]

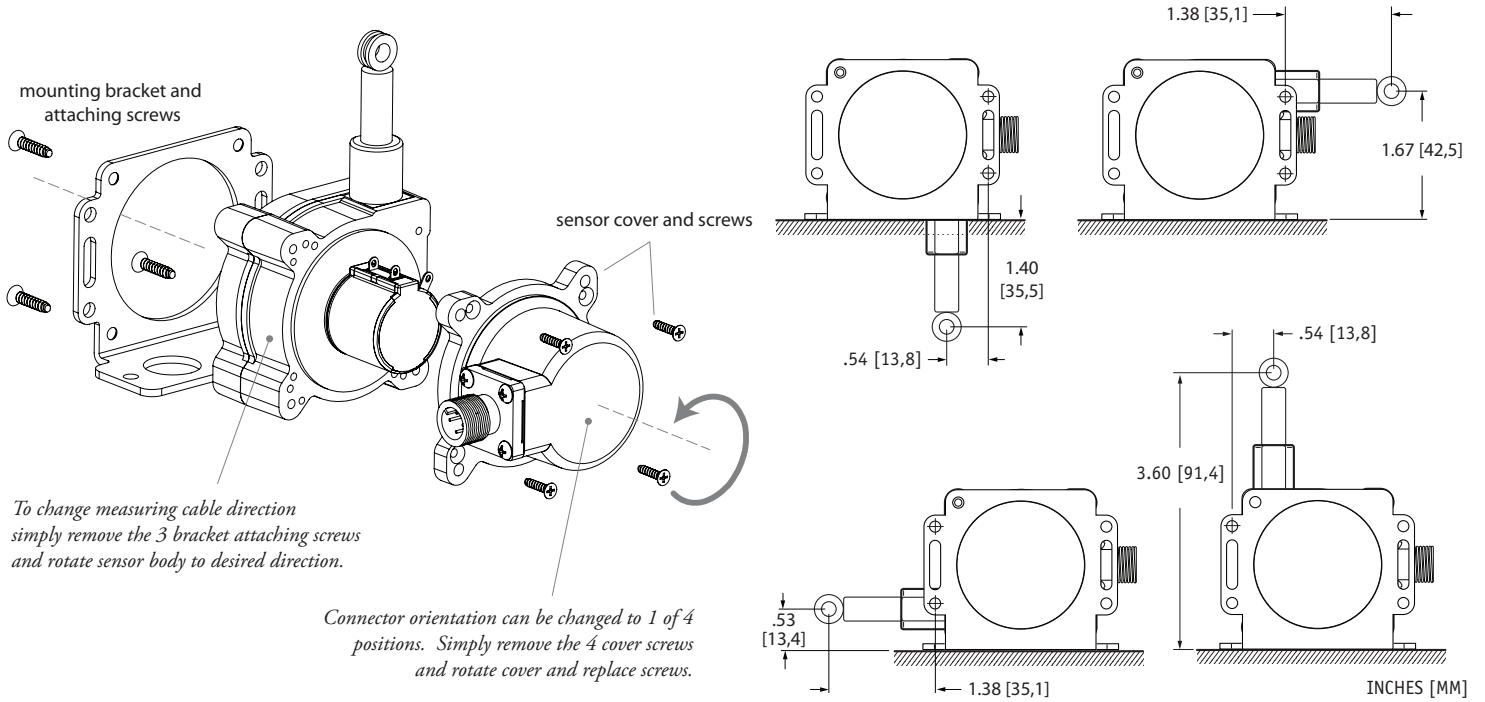
SP1-xx w/ Mounting Bracket:



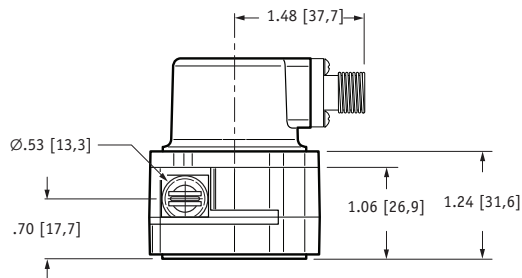
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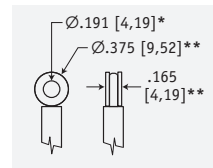
## Mounting Options for SP1-xx-3:



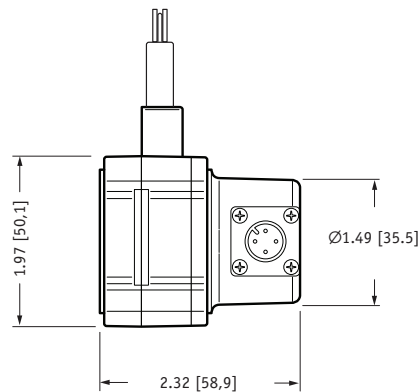
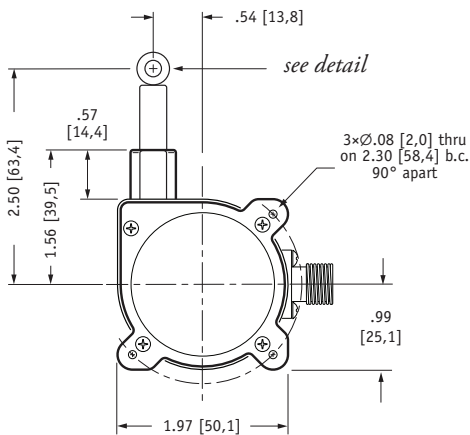
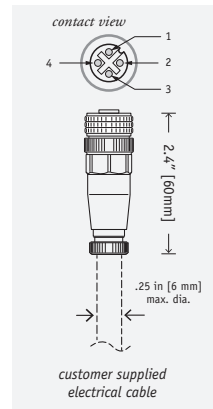
## SP1-xx-3 w/o Mounting Bracket:



eyelet detail



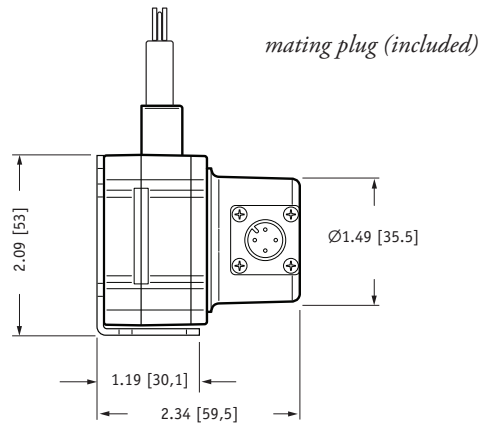
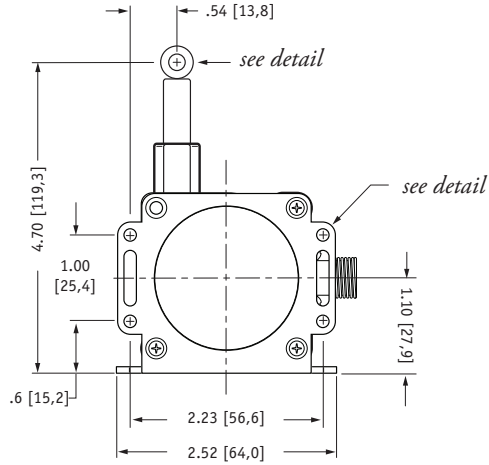
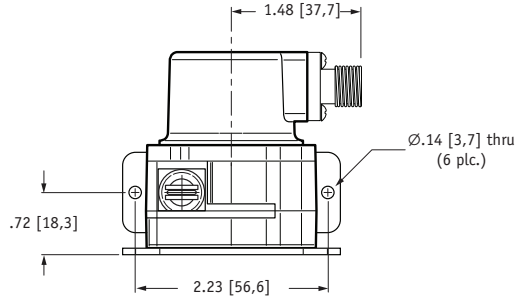
mating plug (included)



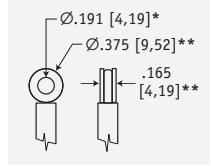
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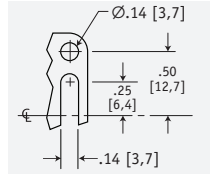
SP1-xx-3 w/ Mounting Bracket:



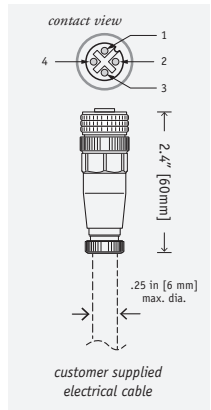
eyelet detail



bracket detail



mating plug (included)



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\*\* tolerance = +.005 -.005 [+0,1 -0,1]

version: 10.0 last updated: November 4, 2013