

SP1

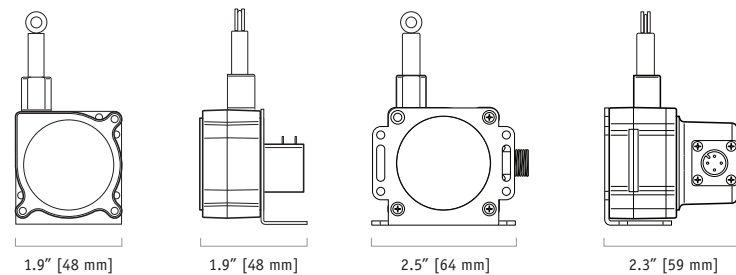
Compact String Pot • Voltage Divider Output

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 $\pm 1.00\%$ (see ordering info)
Repeatability	$\pm 0.05\%$ full stroke
Resolution	essentially infinite
Measuring Cable	0.019-in. dia. nylon-coated stainless steel
Measuring Cable Tension	see ordering information
Maximum Cable Acceleration	see ordering information
Enclosure Material	polycarbonate
Sensor	plastic-hybrid precision potentiometer
Weight, max. (includes bracket)	.4 lbs (.19 kg)

ELECTRICAL

Input Resistance	10K ohms, $\pm 10\%$
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% $\pm 4\%$ of input voltage
Electrical Connection, SP1-xx	solder terminals
Electrical Connection, SP1-xx-3	4-pin, M12 connector

ENVIRONMENTAL

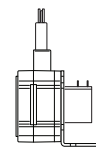
Enclosure	IP 50 (SP1-xx), IP67 (SP1-xx-3)
Operating Temperature, SP1-xx	0° to 160°F (-18° to 70°C)
Operating Temperature, SP1-xx-3	-40° to 160°F (-40° to 70°C)
Vibration	up to 10 g to 2000 Hz maximum



This compact stringpot with “voltage divider” output, provides 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.

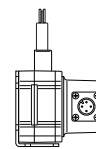
The SP1 is available with a connector, mating plug and sensor cover to protect against IP67 (wet) environments and a lower cost, “open” sensor version priced for both the budget conscious single piece user and the OEM alike.

ORDERING INFORMATION



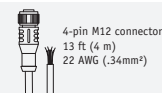
includes sensor & mounting bracket.

Part Number	full stroke range	accuracy	max. acceleration	measuring cable tension ($\pm 25\%$)	cycle life
SP1-4	4.75 in (120 mm)	1.00%	15 g	7oz. (1,9 N)	2.5M
SP1-12	12.5 in (317 mm)	.25%	15 g	7oz. (1,9 N)	500K
SP1-25	25 in (635 mm)	.25%	15 g	7oz. (1,9 N)	500K
SP1-50	50 in (1270 mm)	.25%	15 g	7oz. (1,9 N)	250K



includes sensor, mounting bracket & mating connector.

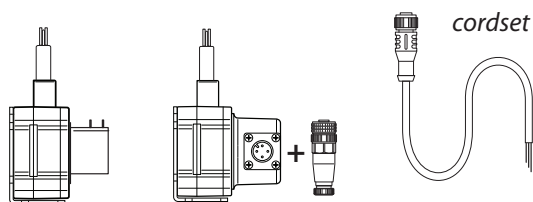
Part Number	full stroke range	accuracy	max. acceleration	measuring cable tension ($\pm 25\%$)	cycle life
SP1-4-3	4.75 in (120 mm)	1.00%	11 g	11.5 oz. (3,2 N)	2.5M
SP1-12-3	12.5 in (317 mm)	.25%	11 g	13.9 oz. (3,7 N)	500K
SP1-25-3	25 in (635 mm)	.25%	11 g	11.5 oz. (3,2 N)	500K
SP1-50-3	50 in (1270 mm)	.25%	11 g	11.5 oz. (3,2 N)	250K



Optional Cordset

..... Part No.
9036810-0040 for all SP1-xx-3 versions, an optional 13-ft. cordset with 4-pin M12 connector

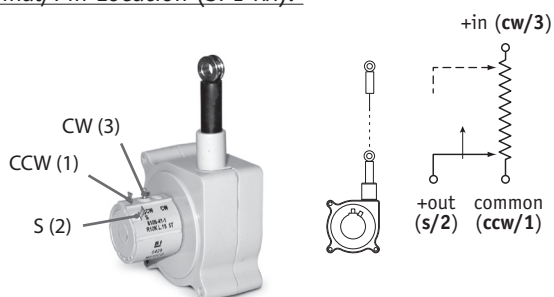
Electrical Connection:



Signals

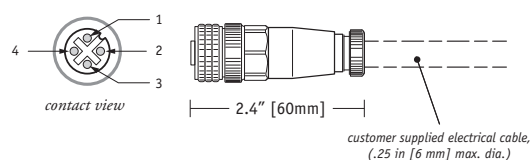
	solder terminals	pin	pin - colorcode
+in	#3 (cw)	1	1 - brown
common	#1 (ccw)	2	2 - white
+out	#2 (s)	3	3 - blue
n/c		4	4 - black

Terminal/Pin Location (SP1-xx):

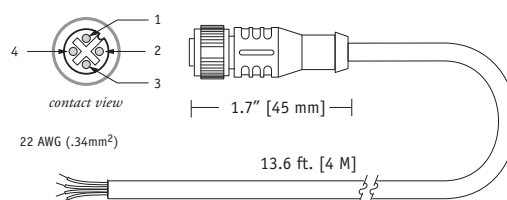


Connector/ Cordset (SP1-xx-3):

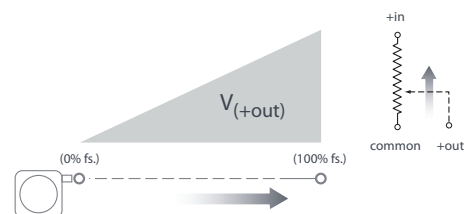
field installable connector (included)



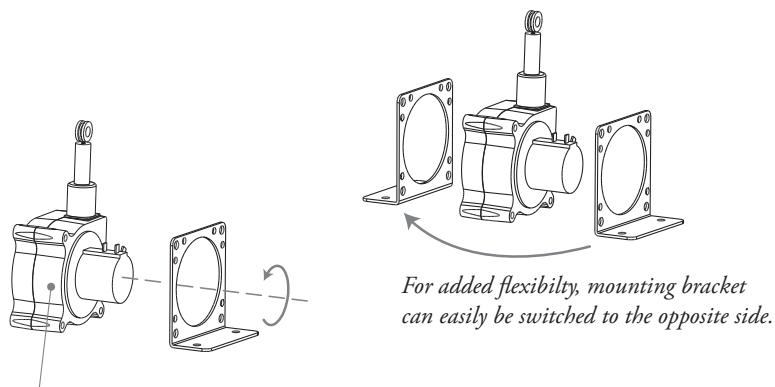
cordset, part no. 9036810-0040 (optional)



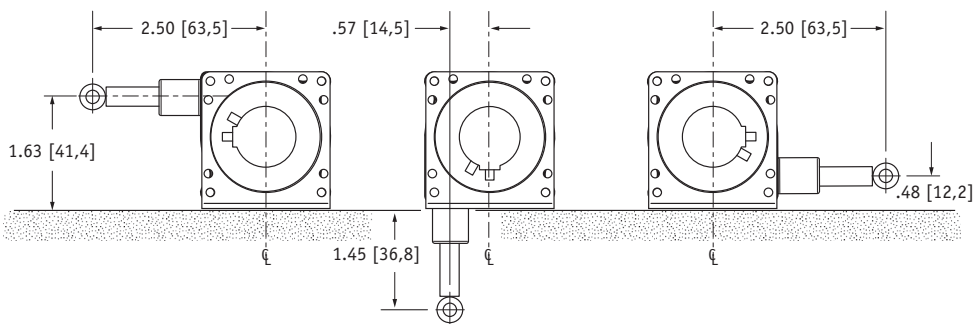
Output Signal:



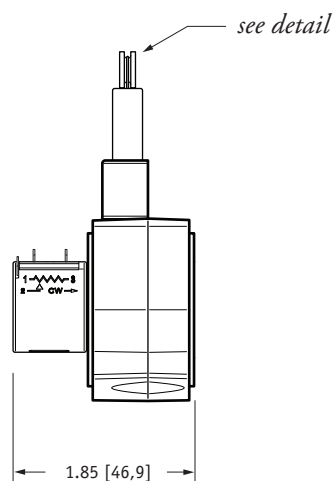
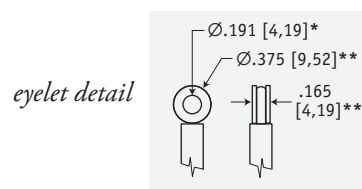
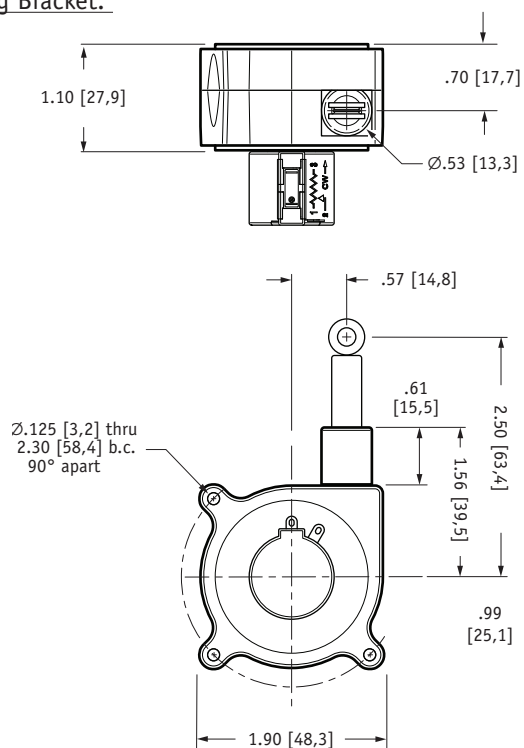
Mounting Options for SP1-xx:



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



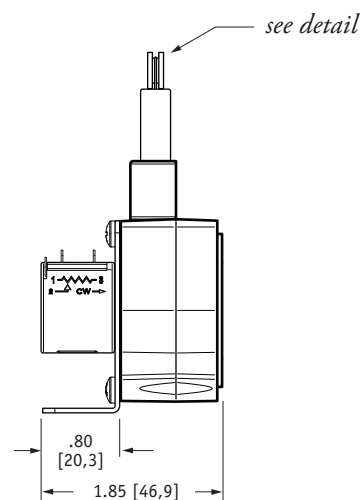
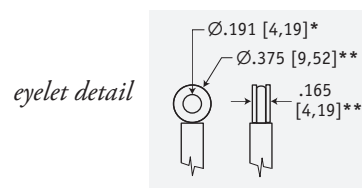
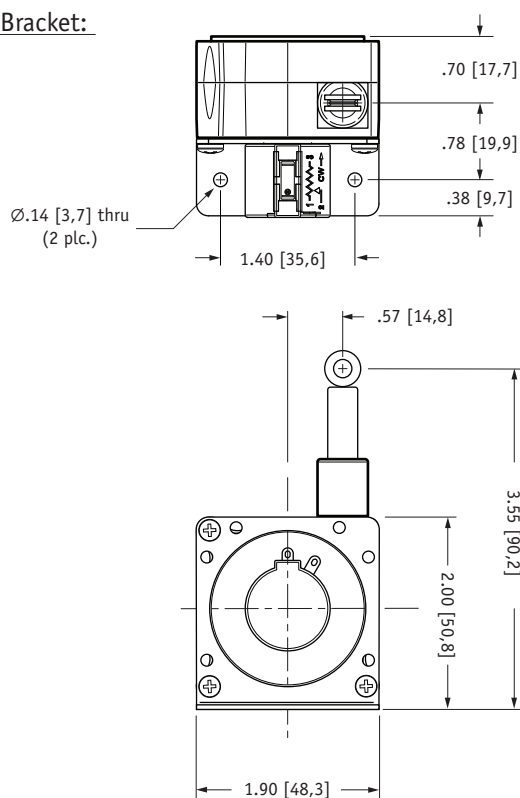
SP1-xx w/o Mounting Bracket:



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]

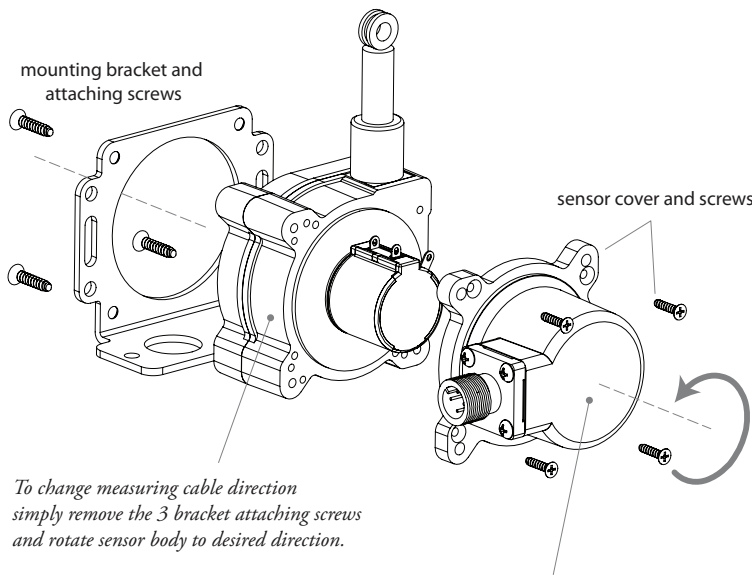
SP1-xx w/ Mounting Bracket:



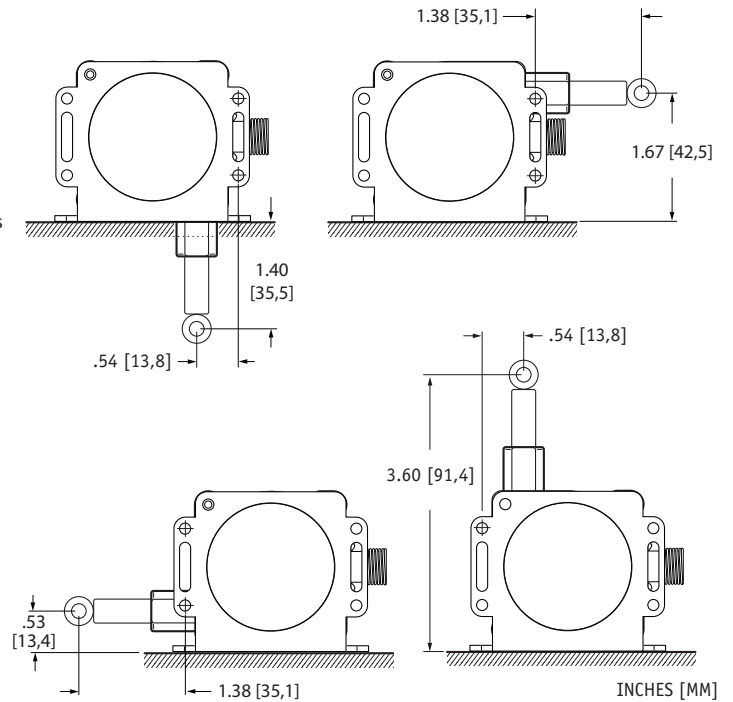
DIMENSIONS ARE IN INCHES [MM]
TOLERANCES ARE 0.04 IN. [1,0 MM] UNLESS OTHERWISE NOTED.

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

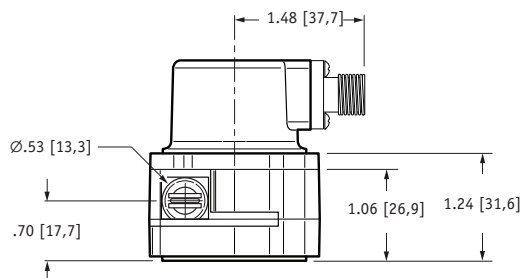
Mounting Options for SP1-xx-3:



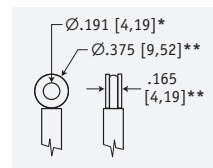
Connector orientation can be changed to 1 of 4 positions. Simply remove the 4 cover screws and rotate cover and replace screws.



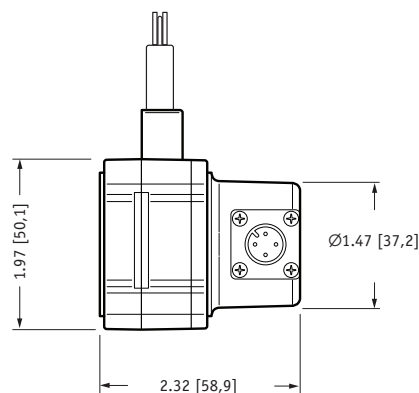
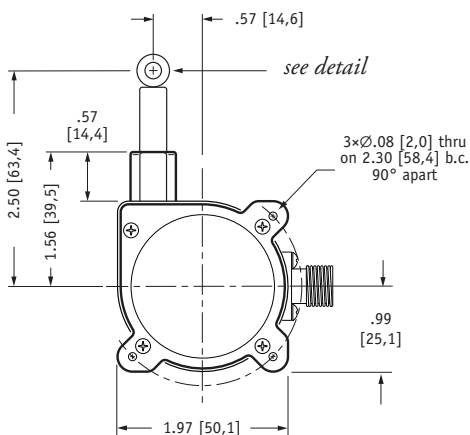
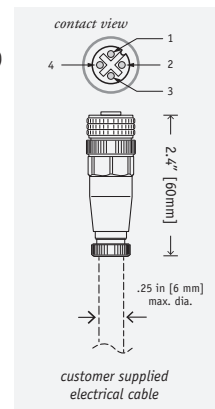
SP1-xx-3 w/o Mounting Bracket:



eyelet detail



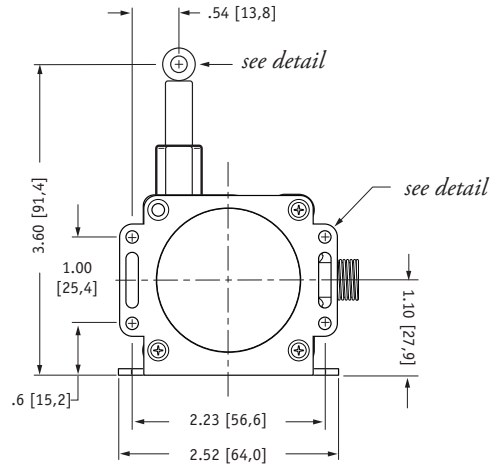
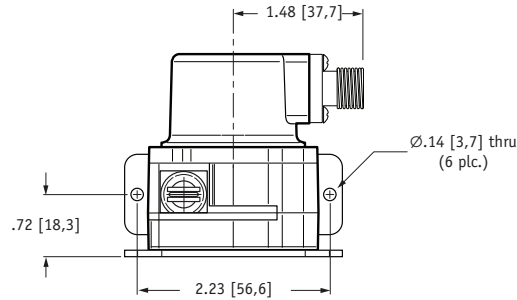
mating plug (included)



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

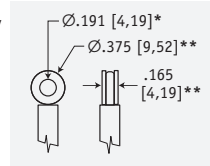
* tolerance = +.005 -.001 [+0,1 -0,0]
** tolerance = +.005 -.005 [+0,1 -0,1]

SP1-xx-3 w/ Mounting Bracket:

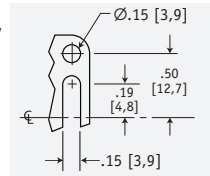


DIMENSIONS ARE IN INCHES [MM]
tolerances are 0.04 IN. [1,0 MM] unless otherwise noted.

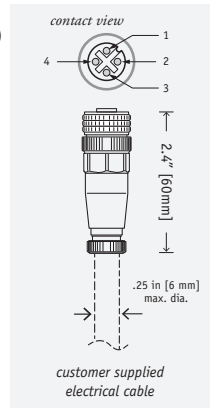
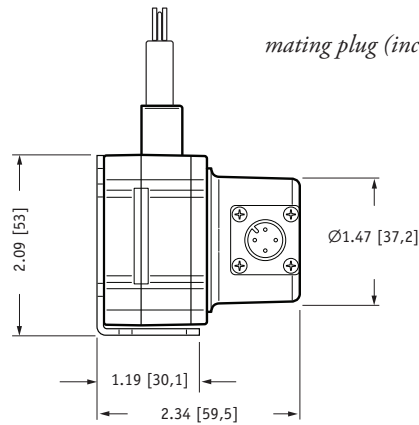
eyelet detail



bracket detail



mating plug (included)



* tolerance = $+0.005 -0.001$ [$+0,1 -0,0$]
** tolerance = $+0.005 -0.005$ [$+0,1 -0,1$]

version: 12.0 last updated: June 16, 2014

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[TE Connectivity:](#)

[SP1-50](#) [SP1-12-3](#)