

SP1

Compact String Pot | Voltage Divider

Linear Position to 50 inches (1270 mm)

Rugged Polycarbonate Enclosure | IP67 Optional

Mounting Bracket & Optional Sensor Cover w/Connector

SPECIFICATIONS

Available Stroke Ranges	0-4.75, 0-12.5, 0-25, 0-50 inches
Output Signal	voltage divider (potentiometric)
Accuracy	±0.25% to ±1.00% FS. (see ordering info)
Repeatability	± 0.05% full stroke
Resolution	essentially infinite
Measuring Cable	.019-inch dia. nylon-coated stainless steel
Maximum Cable Tension	See ordering information
Measuring 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, ±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

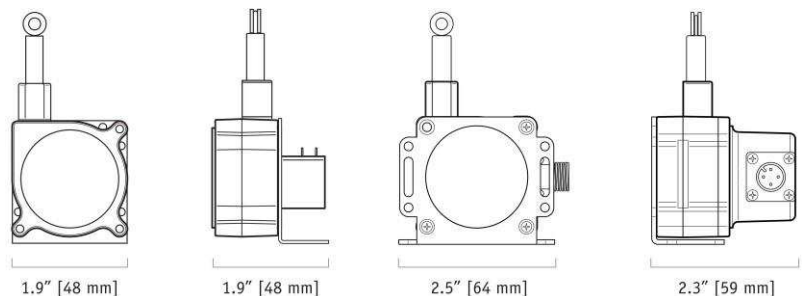
Environmental

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



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.

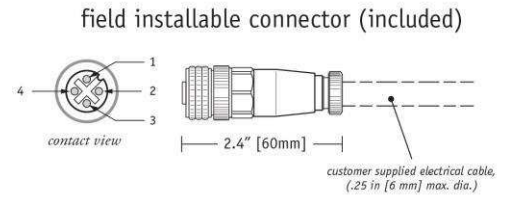
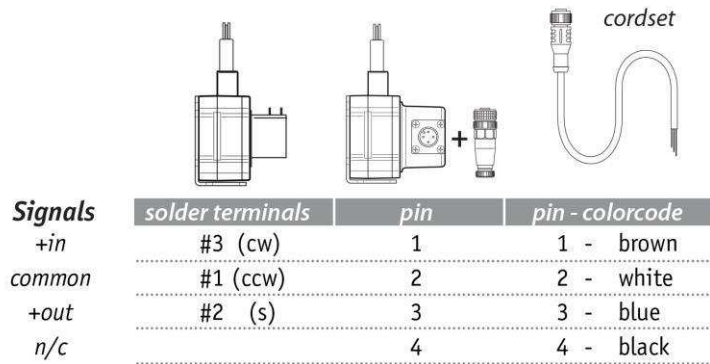
The SP1 is available with a connector, mating plug and sensor cover to protect against IP67 (wet) environments and a lower cost, "open" sensor version priced for both the budget conscious single piece user and the OEM alike.



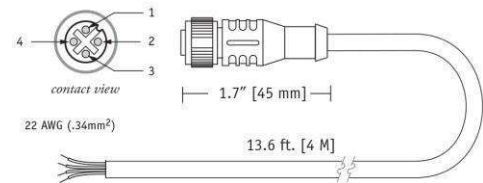
SP1

Compact String Pot | Voltage Divider Output

Electrical Connection:



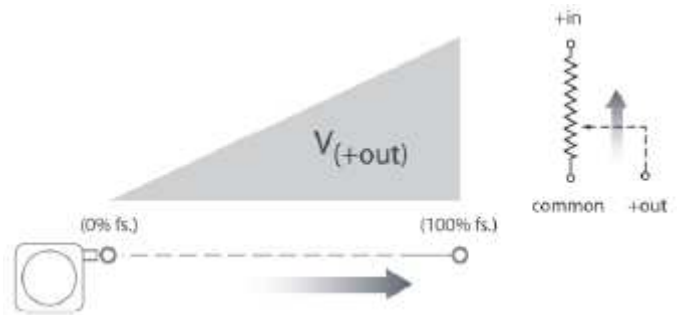
cordset, part no. 9036810-0040 (optional)



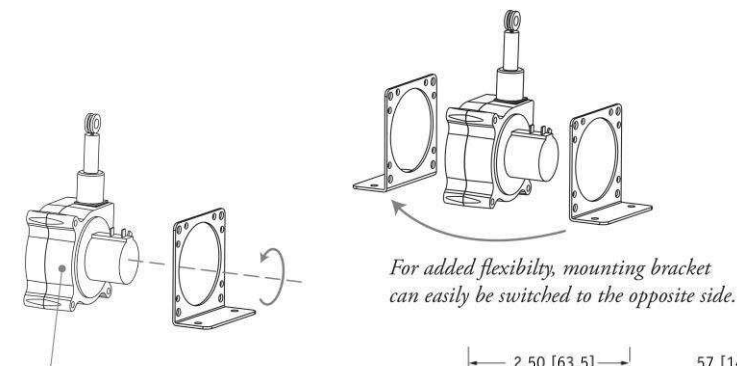
Terminal/Pin Location (SP1-xx):



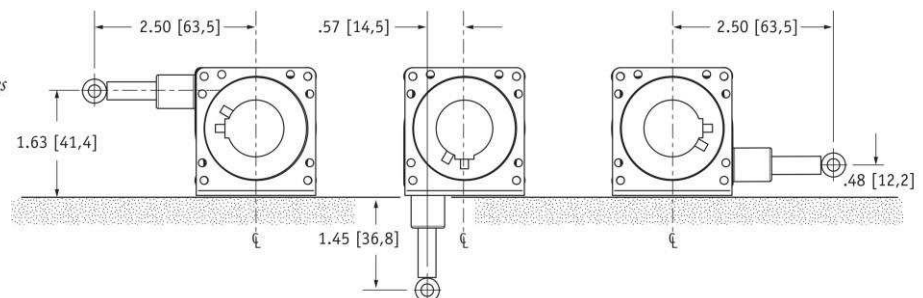
Output Signal:



Mounting Options for SP1-xx:



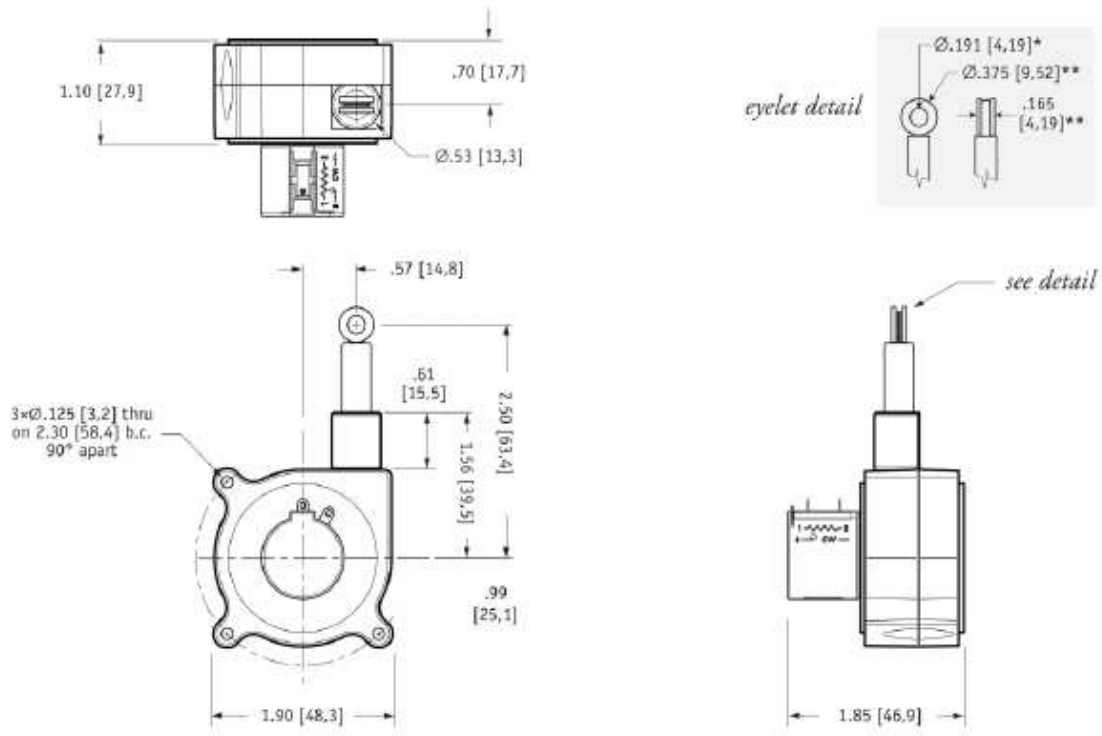
To change measuring cable direction simply remove the 3 bracket attaching screws and rotate sensor body to desired direction.



SP1

Compact String Pot | Voltage Divider Output

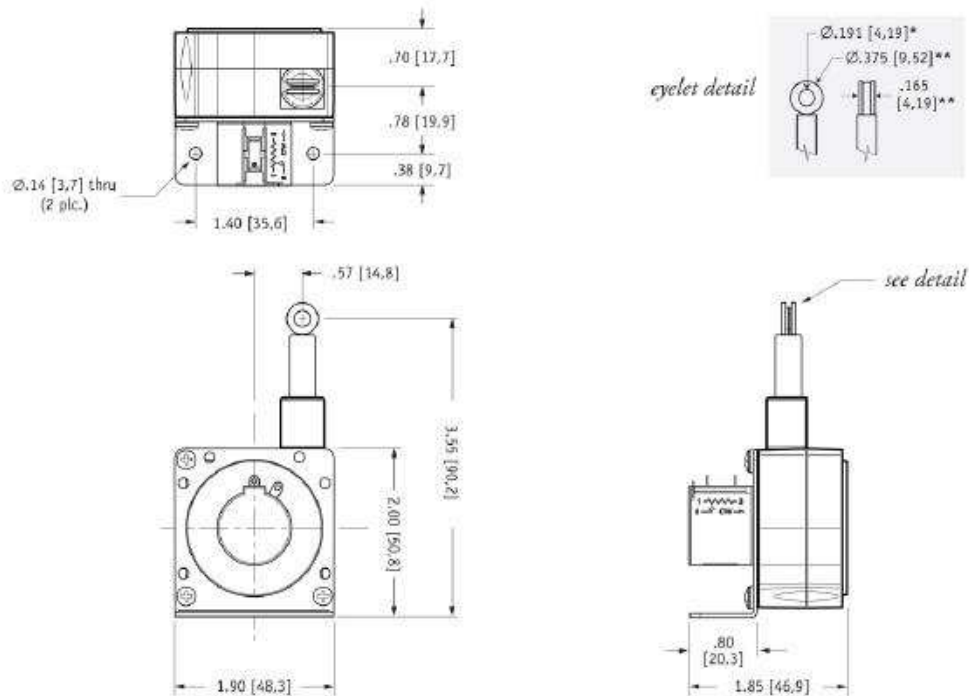
SP1-xx w/o Mounting Bracket:



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:



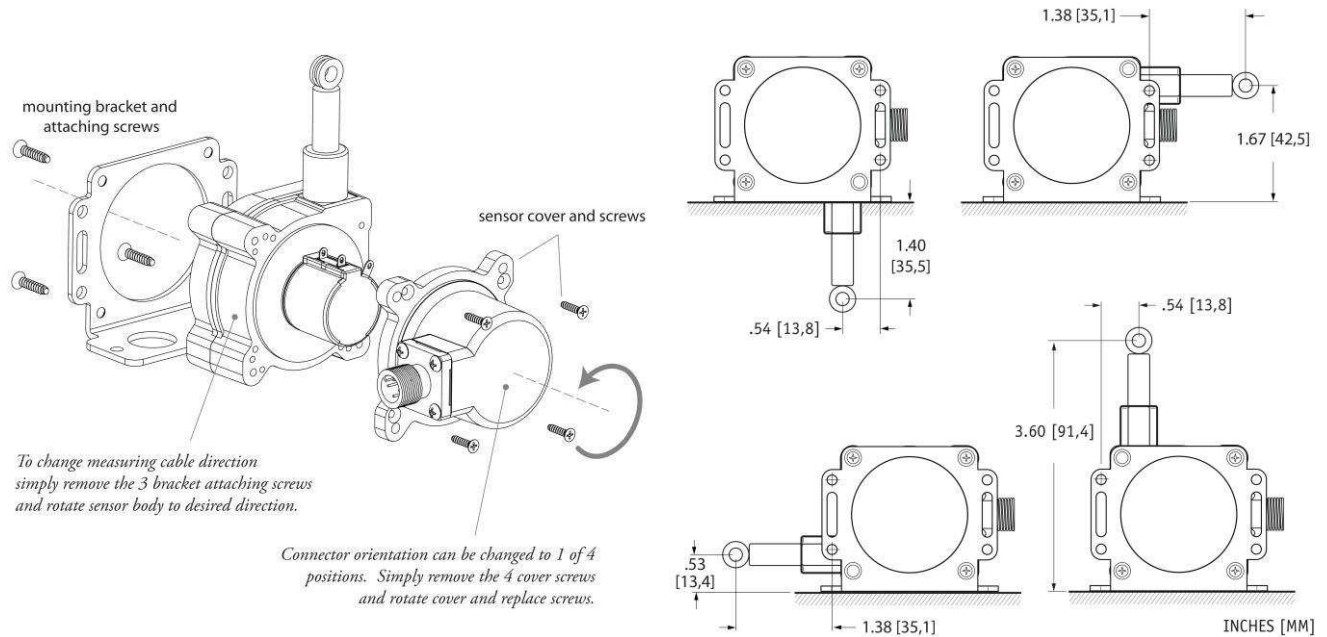
DIMENSIONS ARE IN INCHES (MM)
tolerances are 0.04 IN. [1.0 MM] unless otherwise noted.

* tolerance = +.005 - .001 [+0.1 -0.0]
** tolerance = +.005 - .005 [+0.1 -0.1]

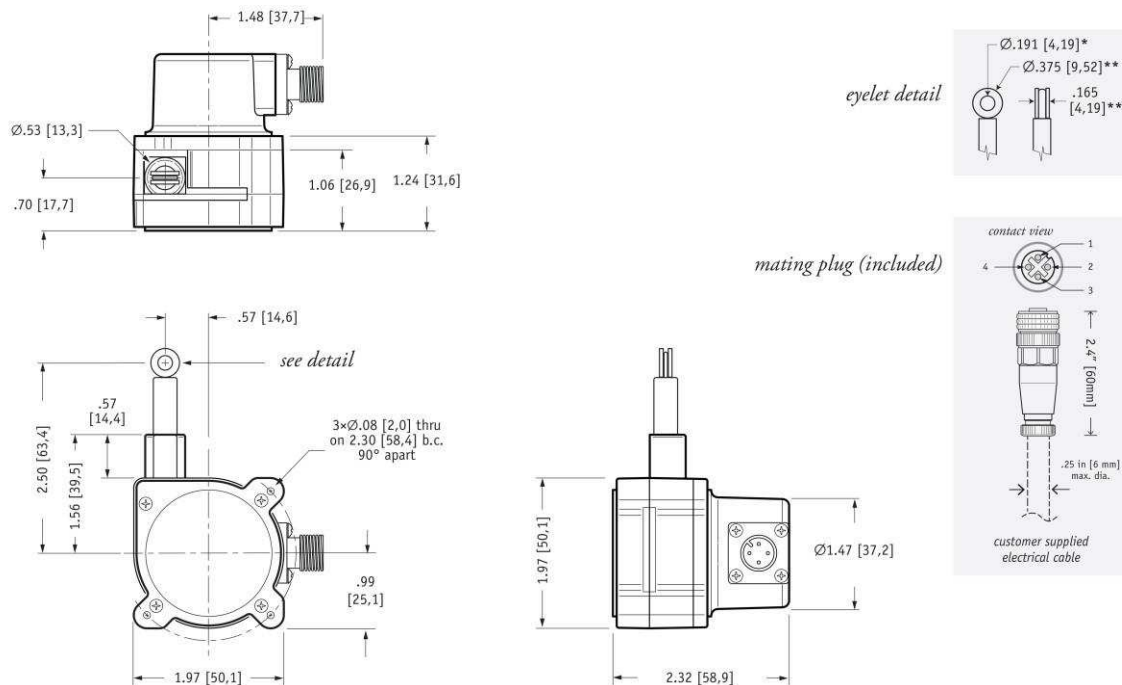
SP1

Compact String Pot | Voltage Divider Output

Mounting Options for SP1-xx-3:



SP-xx-3 w/o Mounting Bracket:



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

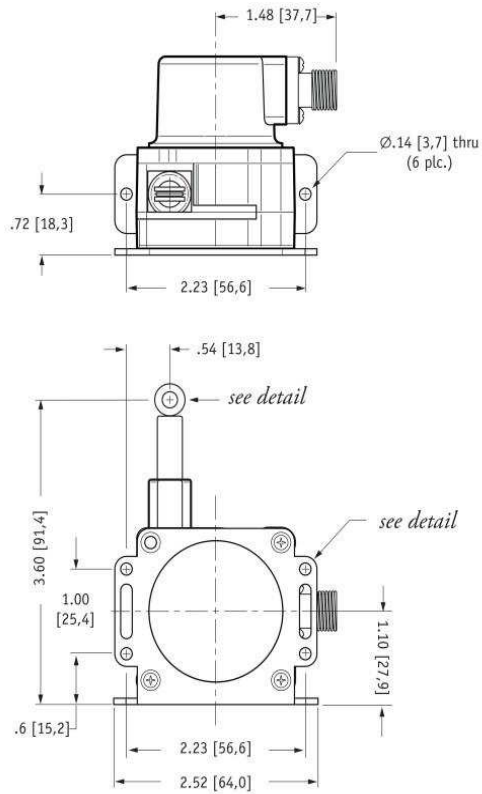
* tolerance = +.005 -.001 [+0,1 -0,0]

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

SP1

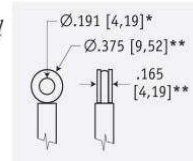
Compact String Pot | Voltage Divider Output

SP1-xx-3 w/ Mounting Bracket:

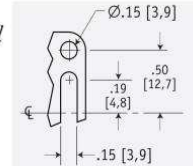


DIMENSIONS ARE IN INCHES [MM]
tolerances are 0.04 IN. [1,0 MM] unless otherwise noted.

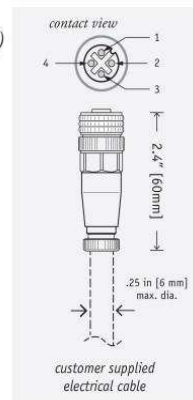
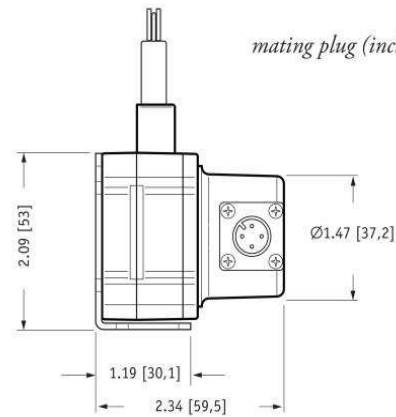
eyelet detail



bracket detail



mating plug (included)

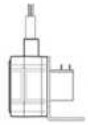


* tolerance = +.005 -.001 [+0,1 -0,0]
** tolerance = +.005 -.005 [+0,1 -0,1]

SP1

Compact String Pot | Voltage Divider Output

Ordering Information:



includes sensor & mounting bracket.

Part Number	full stroke range	accuracy	max. acceleration	measuring cable tension (± 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 (± 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



4-pin M12 connector
13 ft (4 m)
22 AWG (.34mm²)

Optional Cordset

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

[CLICK HERE ›](#)
CONNECT WITH A SPECIALIST

NORTH AMERICA
Tel +1 800 522 6752

EUROPE
Tel +31 73 624 6999

ASIA
Tel +86 0400 820 6015

te.com/sensors

TE Connectivity, TE, TE Connectivity (logo) and Every Connection Counts are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

© 2021 TE Connectivity Corporation. All Rights Reserved.

Version # 08/2023

