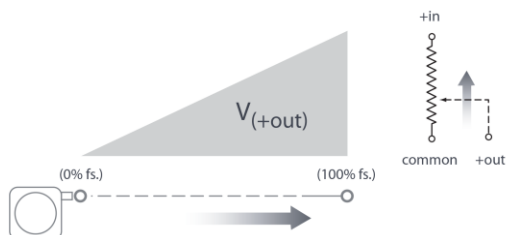


The SP2 String Pot from Celsco is a compact, economical and water resistant device that utilizes a flexible cable, a spring-loaded spool and a potentiometer to detect and measure linear position.

The SP2 is identical to the SP1 except for an added 40-inch electrical cable with a watertight rubber strain relief. The SP2 has been compactly designed for tight spaces and high cycle applications and generously allows for measuring cable misalignment. With 4 different ranges and a handy mounting bracket, the SP2 is a perfect solution for many applications from light industrial to OEM.

## Output Signal



# SP2

## Compact String Pot • Incremental

**Linear Position to 50 inches (1270 mm)**

**Low-Cost, Long Life • Rugged Polycarbonate Enclosure**

**40-in. Electrical Cable • Free-Release Tolerant**

**In Stock for Quick Delivery!**

## Specifications

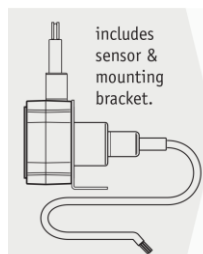
<b>Full Stroke Range Options</b>	0-4.75, 0-12.5, 0-25, 0-50 inches
<b>Output Signal</b>	voltage divider (potentiometer)
<b>Accuracy</b>	$\pm 0.25$ to $\pm 1.00\%$ (see part no. above)
<b>Repeatability</b>	$\pm 0.05\%$ full stroke
<b>Resolution</b>	essentially infinite
<b>Measuring Cable</b>	0.019-in. dia. nylon-coated stainless steel
<b>Measuring Cable Tension</b>	7 oz. (1.9 N) $\pm 25\%$
<b>Maximum Cable Acceleration</b>	15 g
<b>Enclosure Material</b>	polycarbonate
<b>Sensor</b>	plastic-hybrid precision potentiometer
<b>Weight</b>	5 oz. (w/o mounting bracket) max.

## Electrical

<b>Input Resistance</b>	10K ohms, $\pm 10\%$
<b>Power Rating, Watts</b>	2.0 at 70°F derated to 0 at 250°
<b>Recommended Maximum Input Voltage</b>	30 V (AC/DC)
<b>Output Signal Change Over Full Stroke Range</b>	94% $\pm 4\%$ of input voltage
<b>Electrical Connection</b>	40-inch long, 24 gauge shielded electrical cable

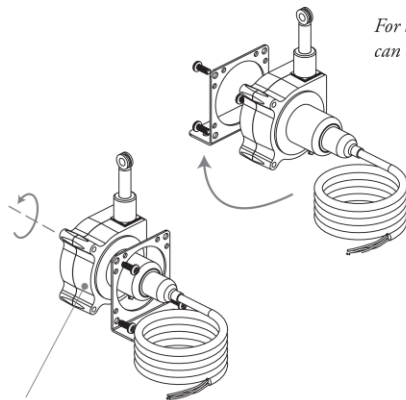
## Environmental

<b>Enclosure</b>	IP 50
<b>Operating Temperature</b>	0° to 160°F (-18° to 71°C)
<b>Vibration</b>	up to 10 g to 2000 Hz maximum



Part No.	full stroke range	accuracy (% of fs.)	cycle life
<b>SP2-4</b>	4.75 in (120 mm)	1.00%	2.5M cycles
<b>SP2-12</b>	12.5 in (317 mm)	0.25%	500K cycles
<b>SP2-25</b>	25 in (635 mm)	0.25%	500K cycles
<b>SP2-50</b>	50 in (1270 mm)	0.25%	250K cycles

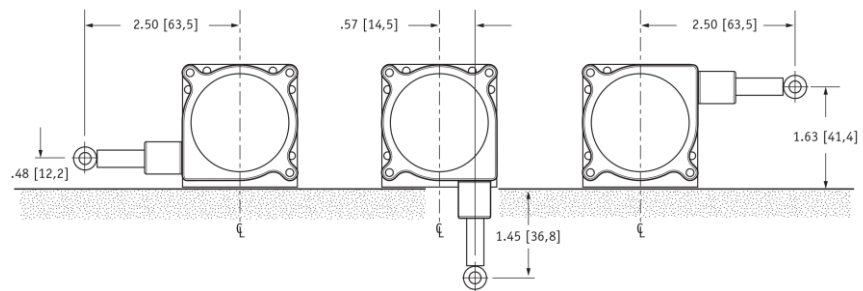
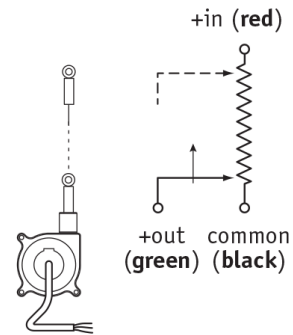
## Mounting Options



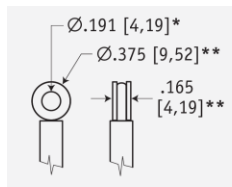
*For added flexibility, mounting bracket can easily be switched to the opposite side.*

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

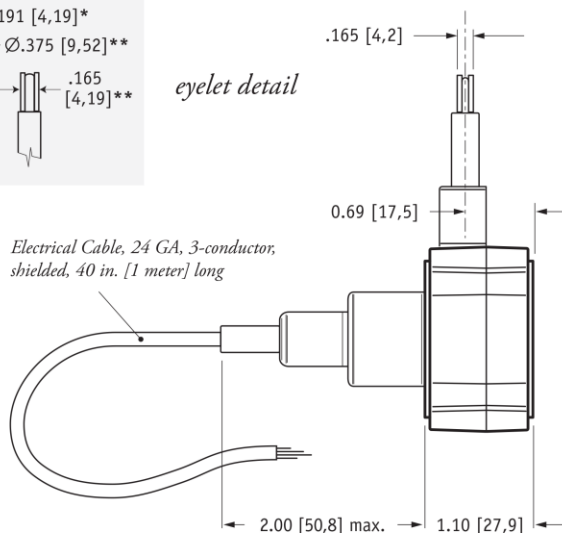
## Electrical Connection



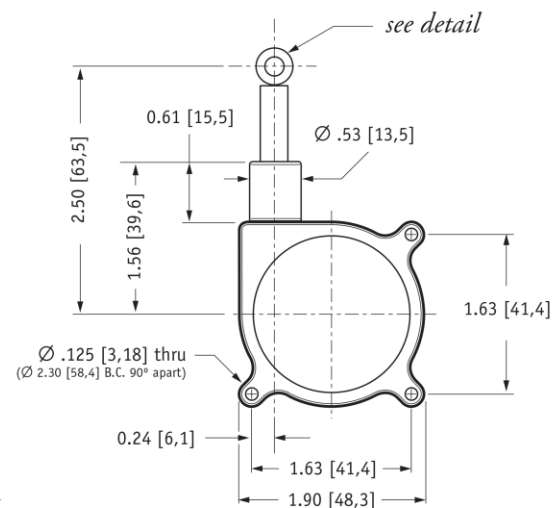
### Outline Drawing (w/o bracket)



*eyelet detail*



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



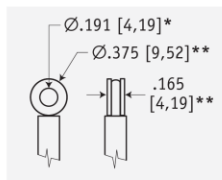
\* tolerance = +.005 -.001 [+0,1 -0,0]

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

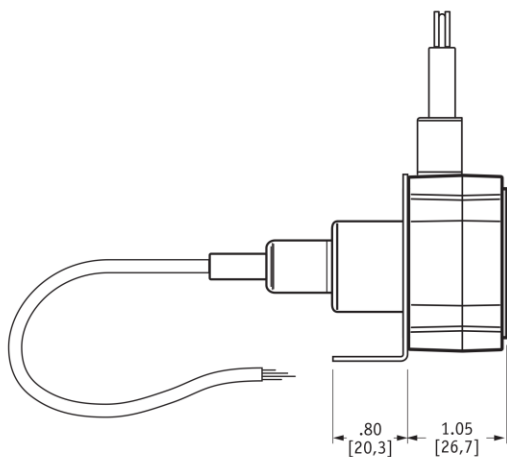
## SP2

Compact String Pot • Incremental Encoder

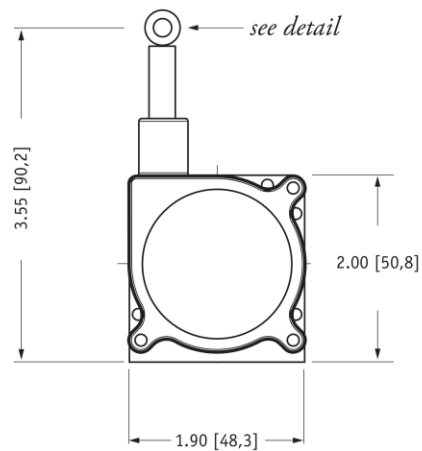
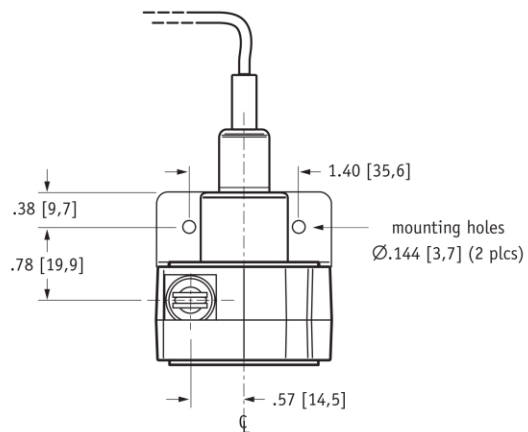
### Outline Drawing (w/ bracket)



*eyelet detail*



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]