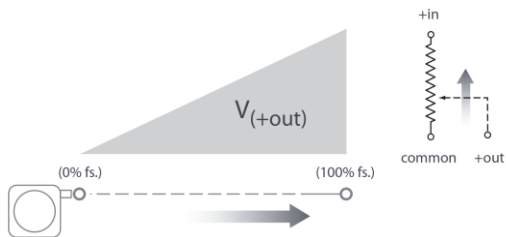


The SP2 String Pot from Celesco is a compact, economical and water resistant device that utilizes a flexible cable, a spring-loaded spool and a potentiometer to detect and measure linear position.

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

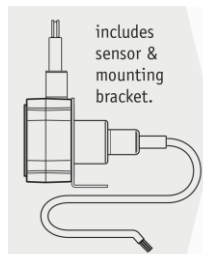
|                                   |   |
|-----------------------------------|---|
| <b>Full Stroke Range Options</b>  | 0-4.75, 0-12.5, 0-25, 0-50 inches           |
| <b>Output Signal</b>              | voltage divider (potentiometer)             |
| <b>Accuracy</b>                   | ±0.25 to ±1.00% (see part no. above)        |
| <b>Repeatability</b>              | ± 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) ±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, ±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% ±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 |

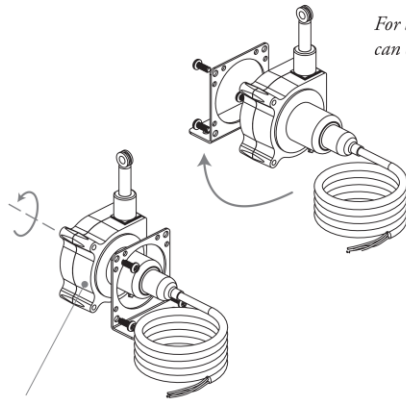


| Part No.      | full stroke range | accuracy (% of fs.) | cycle life  |
|---------------|-------------------|---------------------|-------------|
| <b>SP2-4</b>  | 4.75 in (120 mm)  | 1.00%               | 2.5M cycles |
| <b>SP2-12</b> | 12.5 in (317 mm)  | 0.25%               | 500K cycles |
| <b>SP2-25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

# SP2

Compact String Pot • Incremental Encoder

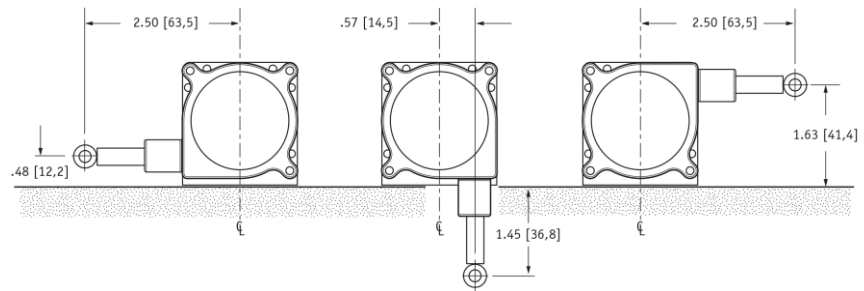
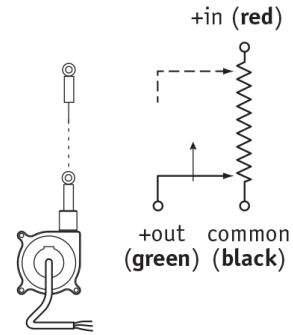
## Mounting Options



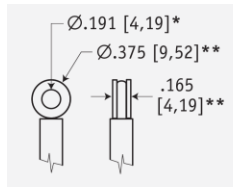
For added flexibility, mounting bracket can easily be switched to the opposite side.

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

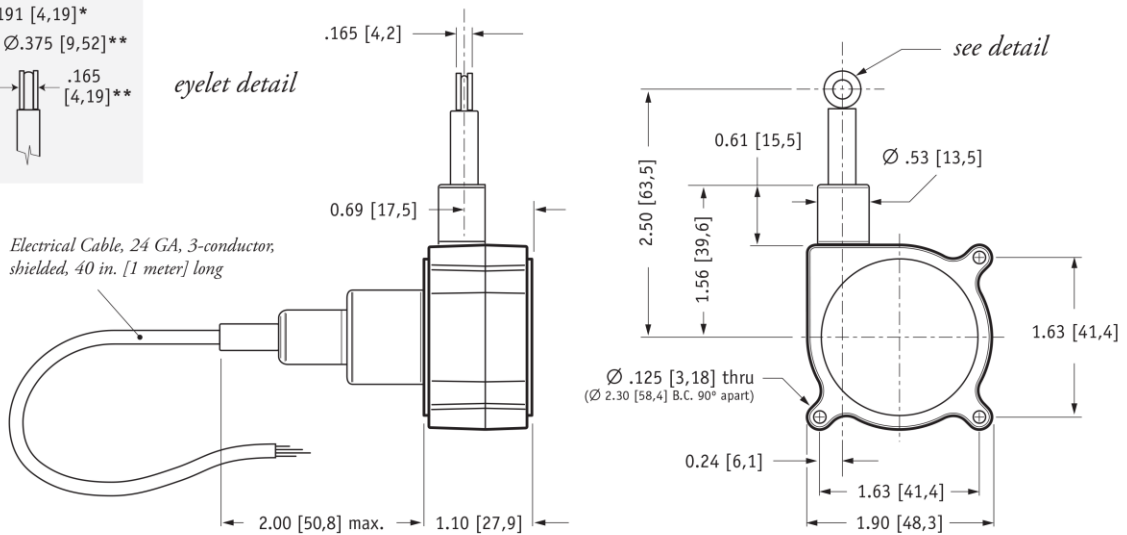
## Electrical Connection



## Outline Drawing (w/o bracket)



eyelet detail



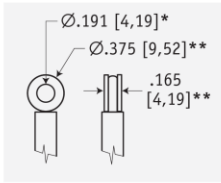
DIMENSIONS ARE IN INCHES [MM]  
tolerances are 0.04 IN. [1,0 MM] unless otherwise noted.

\* tolerance = +.005 -0.001 [+0,1 -0,0]  
\*\* tolerance = +.005 -0.005 [+0,1 -0,1]

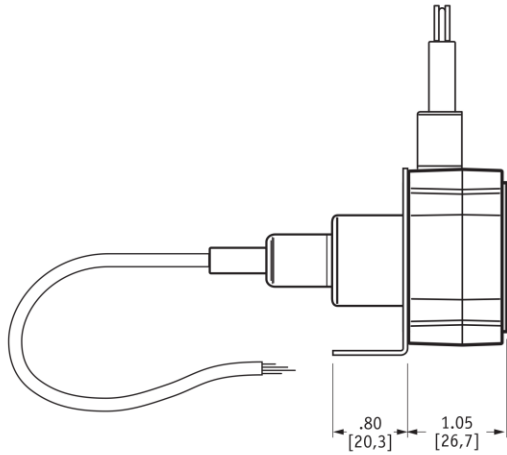
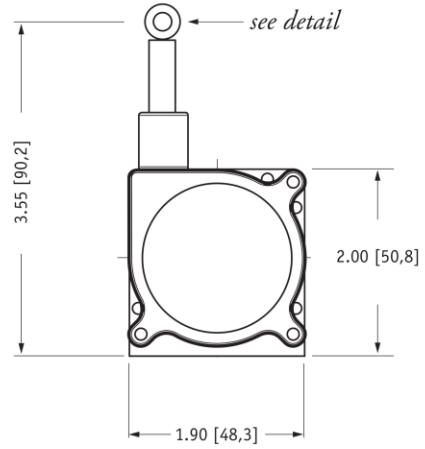
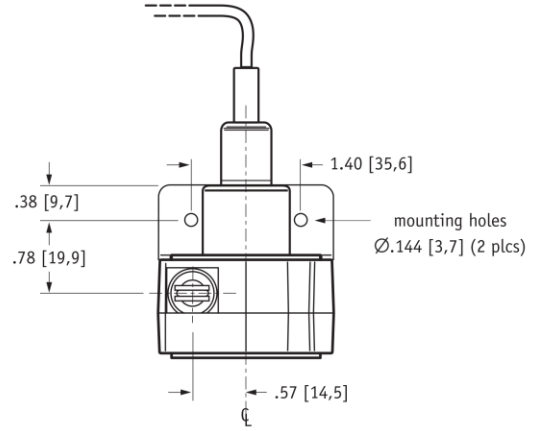
**SP2**

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.

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