

# Cable-Extension Position Transducer

## Precision Potentiometric Output

Ranges: 0-2 to 0-50 inches

Compact Size • OEM Applications



### Specification Summary:

#### GENERAL

Full Stroke Range Options ..... 0-2 to 0-50 inches  
Output Signal Options..... voltage divider (potentiometer)  
Accuracy .....  $\pm 0.25\%$  to  $\pm 0.10\%$  full stroke *see ordering information*  
Repeatability.....  $\pm 0.02\%$  full stroke  
Resolution ..... essentially infinite  
Measuring Cable ..... .019-in. dia. nylon-coated stainless steel  
Enclosure Material..... glass-filled polycarbonate and black anodized aluminum  
Sensor ..... plastic-hybrid precision potentiometer  
Potentiometer Cycle Life ..... *see ordering information*  
Maximum Retraction Acceleration ..... *see ordering information*  
Weight..... 1 lb. max.

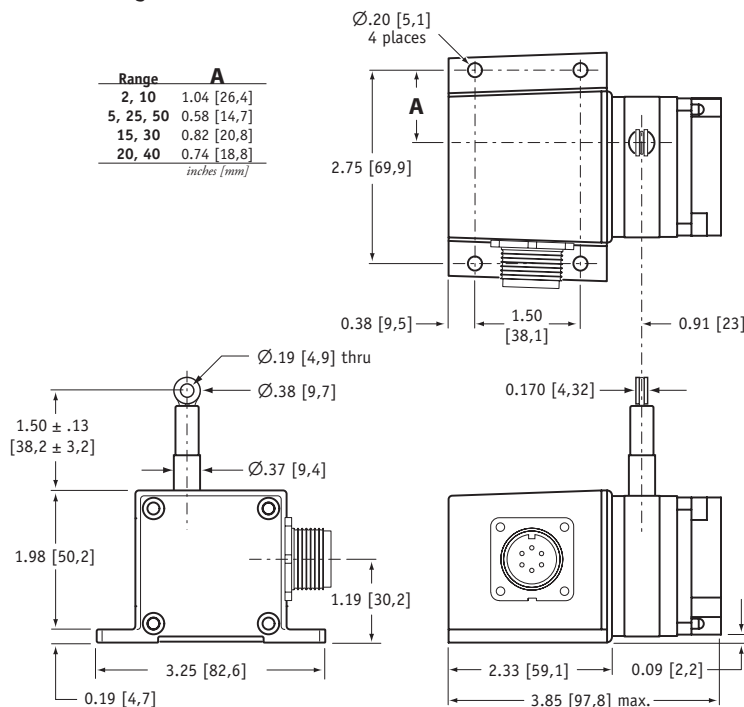
#### ELECTRICAL

Input Resistance Options ..... 500, 1K, 5K, 10K or bridge, *see ordering information*  
Power Rating, Watt ..... *see ordering information*  
Recommended Maximum Input Voltage ..... *see ordering information*  
Output Signal Change Over Full Stroke Range.....  $94\% \pm 4\%$  of input voltage

#### ENVIRONMENTAL

Enclosure ..... NEMA 4, IP 65  
Operating Temperature .....  $0^{\circ}$  to  $200^{\circ}\text{F}$  ( $-17^{\circ}$  to  $90^{\circ}\text{C}$ )  
Vibration..... up to 10 G's to 2000 Hz maximum

### Outline Drawing



dimensions are in inches [mm], tolerances are .003 inches [0,8 mm]

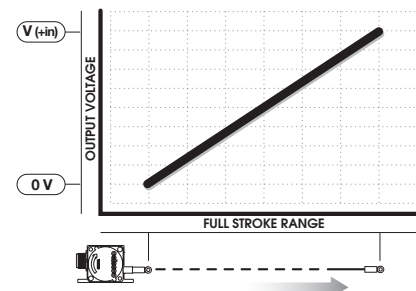
# PT1A



The PT1A is perfect where space and money are limited. The PT1A is part of Celesco's compact line of cable-extension transducers. Using a high cycle plastic-hybrid potentiometer, the PT1A provides a precision voltage divider position feedback signal for full-scale measurement ranges from 2 to 50 inches.

The PT1A has many features to offer including 500 to 10K ohm potentiometer selection, adjustable bridge circuit and multiple measuring cable exit options.

### Output Signal



## Ordering Information:

## Model Number:

**PT1A** - R - A - B - C - D

order code:

Sample Model Number:

**PT1A - 30 - UP - 500 - MC4 - SG**

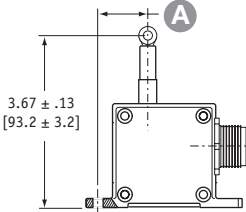
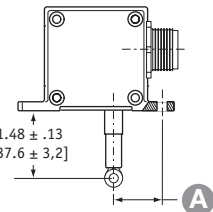
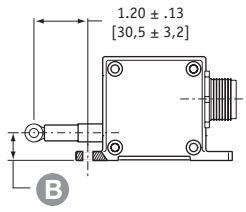
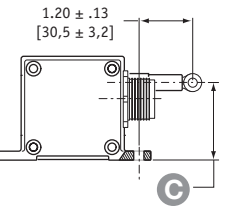
**R** range: 30 inches  
**A** measuring cable exit: up  
**B** output signal: 500-ohm pot.  
**C** electrical connection: 4-pin micro connector  
**D** cable guide: spring-loaded guide

## Full Stroke Range:

<b>R</b> order code:	2	5	10	15	20	25	30	40	50
full stroke range, min:	2 in.	5 in.	10 in.	15 in.	20 in.	25 in.	30 in.	40 in.	50 in.
accuracy (% of f.s.):	0.25%		0.15%				0.10%		
potentiometer cycle life:	2,500,000 cycles		500,000 cycles				250,000 cycles		
cable tension (20%):	12 oz.	5 oz.	12 oz.	9 oz.	6 oz.	5 oz.	9 oz.	6 oz.	5 oz.
maximum cable acceleration:	11 G's	3 G's	11 G's	5 G's	4 G's	3 G's	5 G's	4 G's	3 G's

## Cable Exit:

<b>A</b> order code:	UP	DN	FR	BK
direction:	up	down	front	back

	2	5	10	15	20	25	30	40	50
<b>A</b>	1.04 in. 26,4 mm	0.58 in. 14,7 mm	1.04 in. 26,4 mm	0.82 in. 20,8 mm	0.74 in. 18,8 mm	0.58 in. 14,7 mm	0.82 in. 20,8 mm	0.74 in. 18,8 mm	0.58 in. 14,7 mm
<b>B</b>	0.75 in. 19,1 mm	0.29 in. 6,1 mm	0.75 in. 19,1 mm	0.53 in. 13,5 mm	0.45 in. 11,5 mm	0.29 in. 6,1 mm	0.53 in. 13,5 mm	0.45 in. 11,5 mm	0.29 in. 6,1 mm
<b>C</b>	1.43 in. 36,3 mm	1.89 in. 48,0 mm	1.43 in. 36,3 mm	1.65 in. 41,9 mm	1.73 in. 43,9 mm	1.89 in. 48,0 mm	1.65 in. 41,9 mm	1.73 in. 43,9 mm	1.89 in. 48,0 mm

## Output Signals:

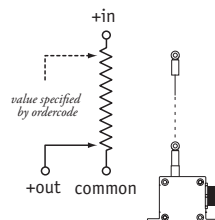
<b>B</b> order code:	500	1K	5K	10K	AB
	500 ohm*	1000 ohm*	5000 ohm*	10,000 ohm*	adjustable bridge (0...30 mV/V)

\*tolerance = ±10%

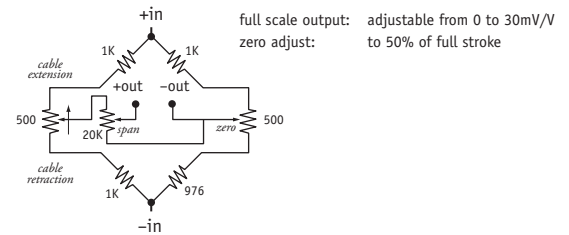
max. input voltage and power rating, options: 500, 1K, 5K, 10K

	2-inch, 5-inch range	10-inch to 50-inch range
500-ohms:	20 V AC/DC (1 W)	30 V AC/DC (2 W)
1K to 10K-ohms:	30 V AC/DC (1 W)	30 V AC/DC (2 W)

circuit options: 500, 1K, 5K, 10K



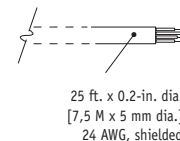
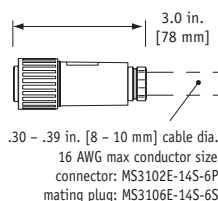
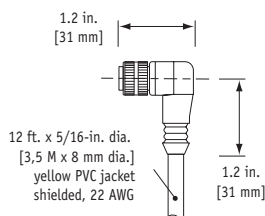
circuit option: AB (adjustable bridge)



**C** order code:

**C25**

25-ft. instrumentation cable  
24 AWG, shielded



**25-ft. cable:**

	pin	color code	standard	bridge
	1	RED-BLK TR.	+IN	+IN
	2	RED-WHT TR.	COMMON	-IN
	3	RED	+OUT	+OUT
	4	GREEN	-	-OUT

	pin	standard	bridge
	A	+IN	+IN
	B	COMMON	-IN
	C	+OUT	-OUT
	D	-	+OUT

contact view

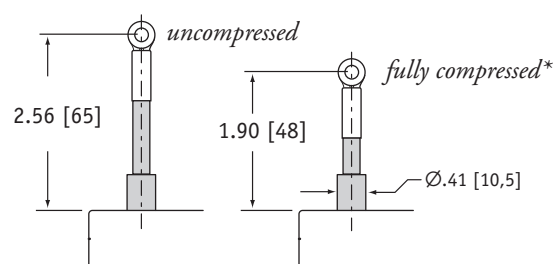
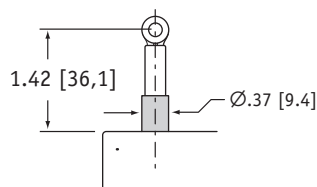
color code	standard	bridge
RED	+IN	+IN
BLACK	COMMON	-IN
GREEN	+OUT	+OUT
WHITE	-	-OUT

**D** *order code:*

## SG

standard cable guide

spring-loaded guide



*\*note: start of full stroke range begins at full compression point (except 2-inch and 5-inch ranges).*