

**Precision Potentiometric Output**  
**Ranges: 0-2 to 0-50 inches**  
**Compact Size • OEM Applications**



# PT1A

## 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

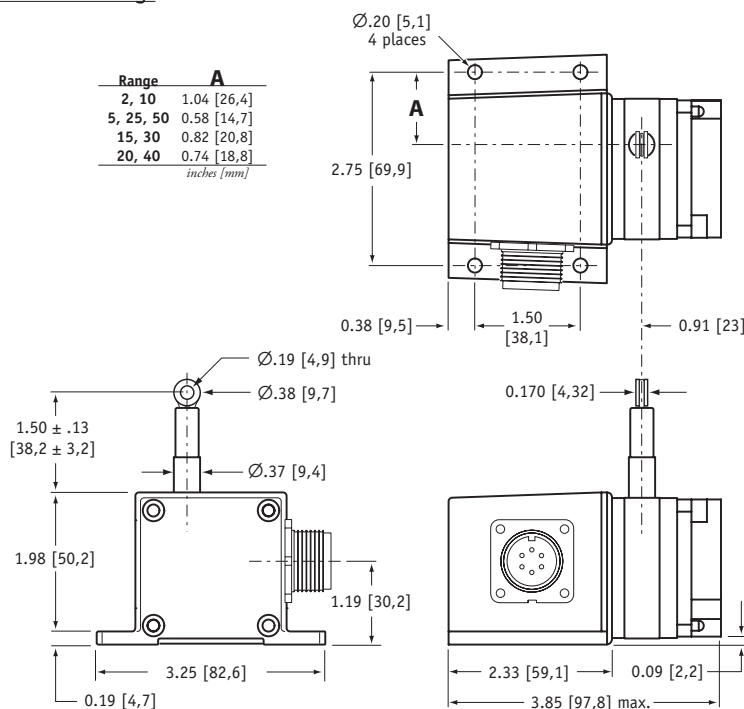
Enclosure ..... NEMA 4, IP 65  
 Operating Temperature .....  $0^{\circ}$  to  $200^{\circ}\text{F}$  ( $-17^{\circ}$  to  $90^{\circ}\text{C}$ )  
 Vibration..... up to 10 G's to 2000 Hz maximum



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.

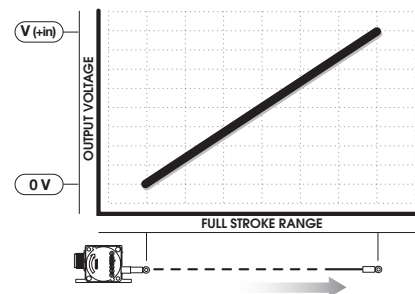
The PT1A has many features to offer including 500 to 10K ohm potentiometer selection, adjustable bridge circuit and multiple measuring cable exit options.

### Outline Drawing



dimensions are in inches [mm], tolerances are 0.03 inches [0,8 mm]

### Output Signal



**Ordering Information:**

**Model Number:**

**PT1A** -      -      -      -      -      -     

order code:      **R**      **A**      **B**      **C**      **D**

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

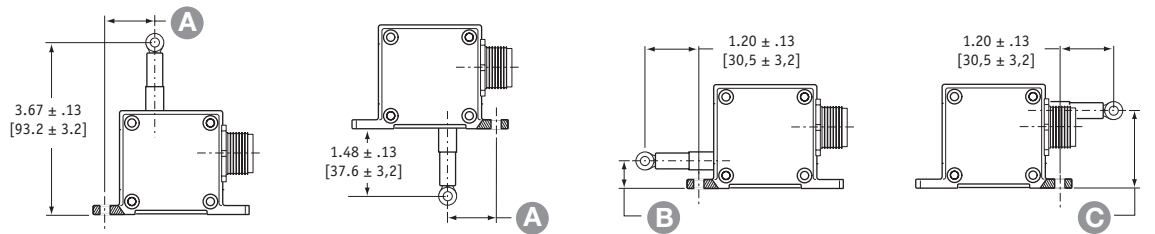
**Full Stroke Range:**

<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:**

**A** order code:      **UP**      **DN**      **FR**      **BK**

direction:      up      down      front      back



measurement range	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** order code:      **500**      **1K**      **5K**      **10K**      **AB**

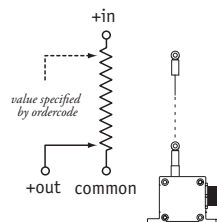
500 ohm\*      1000 ohm\*      5000 ohm\*      10,000 ohm\*      adjustable bridge (0...30 mV/V)

\*tolerance = ±10%

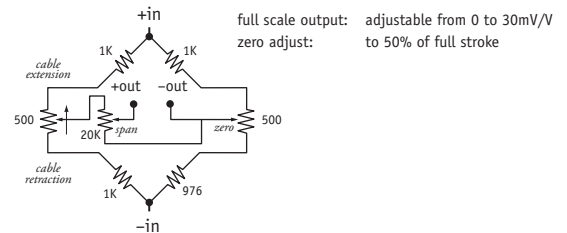
**max. input voltage and power rating, options: 500, 1K, 5K, 10K**

	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)**

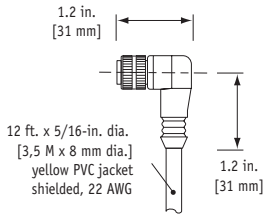


**Ordering Information (cont.)**

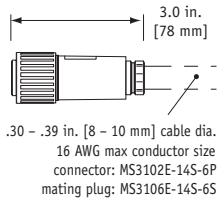
**Electrical Connection:**

ⓐ order code:

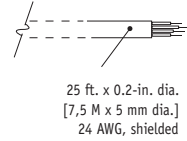
**MC4**  
 4-pin micro-connector  
 with 12 ft [3.5 M] cordset



**M6**  
 6-pin plastic connector  
 with mating plug



**C25**  
 25-ft. instrumentation cable  
 24 AWG, shielded

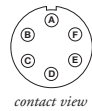


**4-pin mating plug and cord set:**



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

**6-pin mating plug:**



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

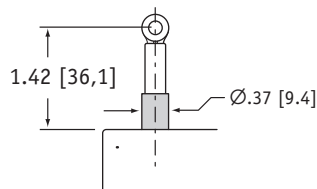
**25-ft. cable:**

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

**Cable Guide:**

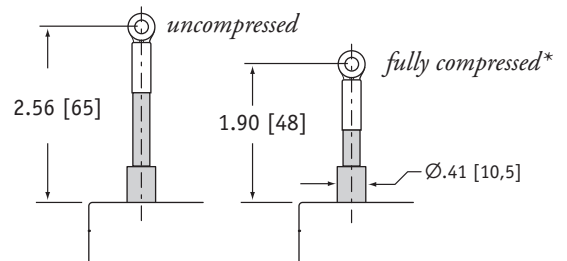
ⓓ order code:

**blank**  
 standard cable guide



**SG**  
 spring-loaded guide

*cable-guide cushions impact from accidental free release*



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

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