

Cable-Extension Position Transducer

Short to Medium Range
Compact Size • OEM Applications
Precision Potentiometric Output



PT1A



Specification Summary:

GENERAL
 Full Stroke Ranges 0-2 to 0-50 inches
 Output Signal voltage divider (potentiometer)
 Accuracy ± 0.25 to 0.10% full stroke, *see ordering information*
 Repeatability $\pm 0.02\%$ full stroke
 Resolution essentially infinite
 Measuring Cable 0.019-in. dia. nylon-coated stainless steel
 Enclosure Material ABS plastic and black anodized aluminum
 Sensor plastic-hybrid precision potentiometer
 Weight 1 lb., max.

ELECTRICAL
 Input Resistance Options 500, 1K, 5K, 10K ohms ($\pm 10\%$) or adj. bridge
 Power Rating, Watts 2.0 at 70°F (derated to 0 @ 250°F)
 Recommended Maximum Input Voltage 30 V (AC or DC)
 Output Signal Change Over Measurement Range 94% $\pm 4\%$ of input voltage

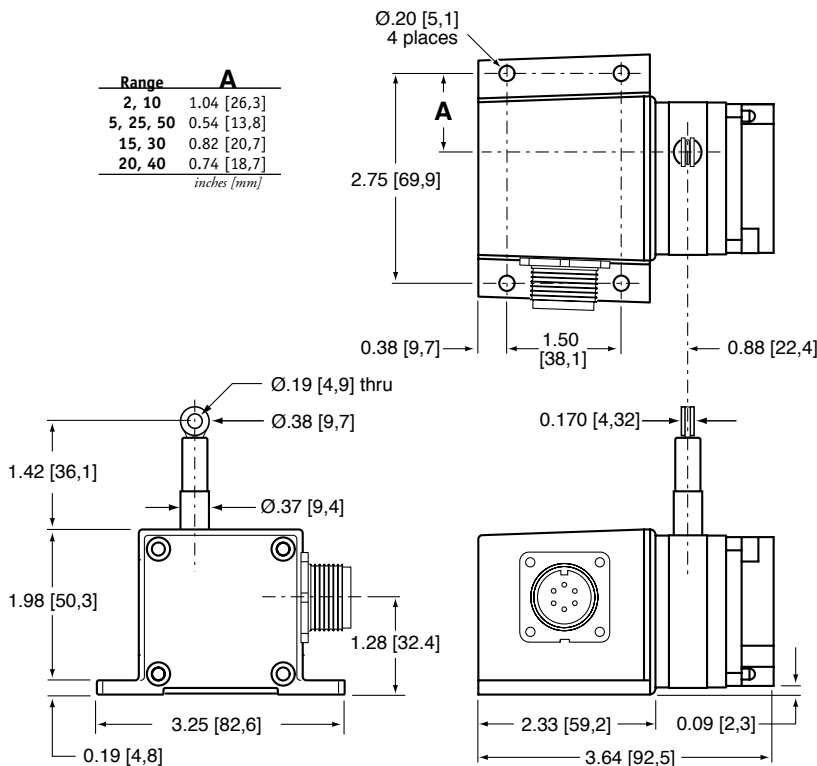
ENVIRONMENTAL
 Enclosure Design NEMA 4, IP67
 Operating Temperature 0° to 200°F
 Vibration up to 10 G's to 2000 Hz maximum

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: 500 to 10K ohm potentiometer selection, adjustable bridge circuit, up to 4 different measuring cable exits and 2 types of electrical connections.

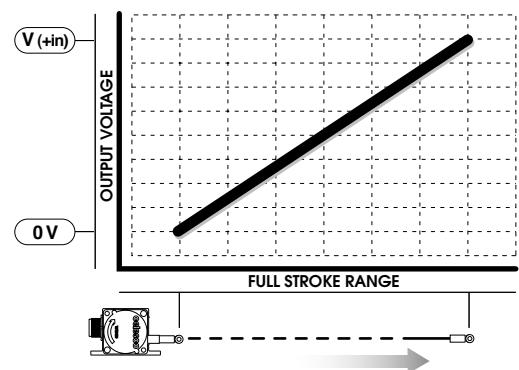
Range	A
2, 10	1.04 [26,3]
5, 25, 50	0.54 [13,8]
15, 30	0.82 [20,7]
20, 40	0.74 [18,7]

inches [mm]



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

Electrical Output Signal:



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Celesco Transducer Products, Inc.
 20630 Plummer Street • Chatsworth, CA • 91311
 tel: (800) 423-5483 • (818) 701-2750 • fax: (818) 701-2799
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PT1A • Cable-Extension Transducer • Potentiometric Output

Ordering Information

Model Number:

PT1A - _____ - _____ - _____ - _____ - _____
order code: **R** **A** **B** **C** **D**

Sample Model Number:

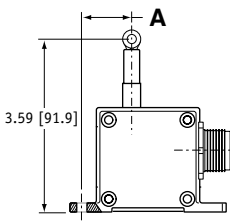
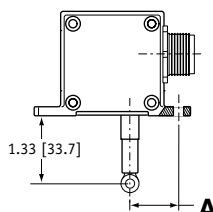
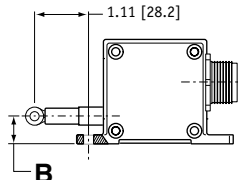
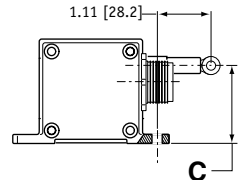
PT1A - 30 - UP - 500 - MC4 - SG

- 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

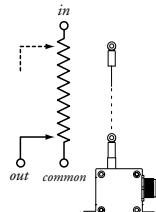
Full Stroke Range:

R 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 ($\pm 20\%$):	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					
									
range	2	5	10	15	20	25	30	40	50
A	1.04 in. 26,3 mm	0.54 in. 13,8 mm	1.04 in. 26,3 mm	0.82 in. 20,7 mm	0.74 in. 18,7 mm	0.54 in. 13,8 mm	0.82 in. 20,7 mm	0.74 in. 18,7 mm	0.54 in. 13,8 mm
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
C	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. 43,7 mm	1.89 in. 48,0 mm	1.65 in. 41,9 mm	1.73 in. 43,7 mm	1.89 in. 48,0 mm

Output Signals:

B order code:	500	1K	5K	10K	AB
sensing circuit:	500 Ω	1K Ω	5K Ω	10K Ω	adjustable bridge
					
					f.s. output: adjustable 0...30mV/V
					zero adjust: from 0 to 50% of full range

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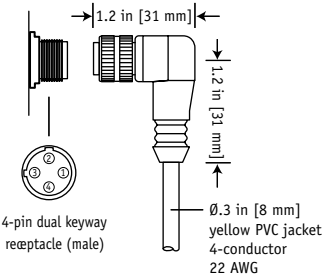
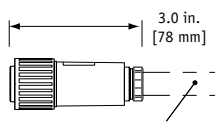
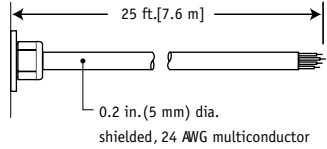

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Ordering Information (cont.)

Electrical Connections:

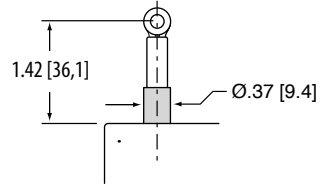
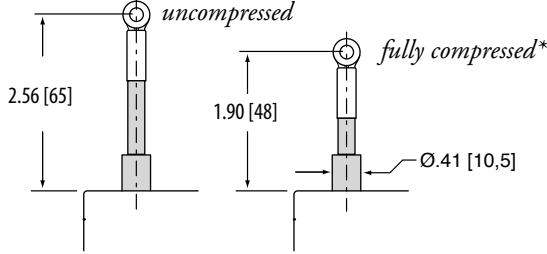
⑨ *order code:*

MC4		M6	C25																																																					
4-pin micro-connector and 12 ft. [3.7 m] cable assembly 		6-pin plastic connector and mating plug 	25 ft. [7.6 m] instrumentation cable 																																																					
<table border="1"> <thead> <tr> <th>pin</th> <th>color-code</th> <th colspan="2">i/o signals</th> </tr> <tr> <th></th> <th></th> <th>standard</th> <th>adj. bridge</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>RED-BLK. TR.</td> <td>+IN</td> <td>+IN</td> </tr> <tr> <td>2</td> <td>RED-WHT. TR.</td> <td>COMMON</td> <td>-IN</td> </tr> <tr> <td>3</td> <td>RED</td> <td>+OUT</td> <td>+OUT</td> </tr> <tr> <td>4</td> <td>GREEN</td> <td>-</td> <td>-OUT</td> </tr> </tbody> </table>	pin	color-code	i/o signals				standard	adj. bridge	1	RED-BLK. TR.	+IN	+IN	2	RED-WHT. TR.	COMMON	-IN	3	RED	+OUT	+OUT	4	GREEN	-	-OUT	 <table border="1"> <thead> <tr> <th></th> <th>standard</th> <th>bridge</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>+IN</td> <td>A = +IN</td> </tr> <tr> <td>B</td> <td>COMMON</td> <td>B = -IN</td> </tr> <tr> <td>C</td> <td>+OUT</td> <td>C = -OUT</td> </tr> <tr> <td>D</td> <td></td> <td>D = +OUT</td> </tr> </tbody> </table> <p><i>mating plug (contact view)</i></p>		standard	bridge	A	+IN	A = +IN	B	COMMON	B = -IN	C	+OUT	C = -OUT	D		D = +OUT	<table border="1"> <thead> <tr> <th></th> <th>standard</th> <th>bridge</th> </tr> </thead> <tbody> <tr> <td>RED</td> <td>= +IN</td> <td>RED = +IN</td> </tr> <tr> <td>BLK</td> <td>= COMMON</td> <td>BLK = -IN</td> </tr> <tr> <td>GRN</td> <td>= OUT</td> <td>WHT = -OUT</td> </tr> <tr> <td></td> <td></td> <td>GRN = +OUT</td> </tr> </tbody> </table>		standard	bridge	RED	= +IN	RED = +IN	BLK	= COMMON	BLK = -IN	GRN	= OUT	WHT = -OUT			GRN = +OUT
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Cable Guide:

⑩ *order code:*

description:

blank	SG
standard cable guide 	spring-loaded guide 

*note: start of full stroke range begins at **full compression point**

version: 1.0 last updated: July 6, 2004

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