

PT1A

Industrial Grade • Voltage Divider

Absolute Linear Position to 50 inches (1270 mm)

Aluminum and Polycarbonate Enclosure

Compact Design

IP65 • NEMA 4 Protection



GENERAL

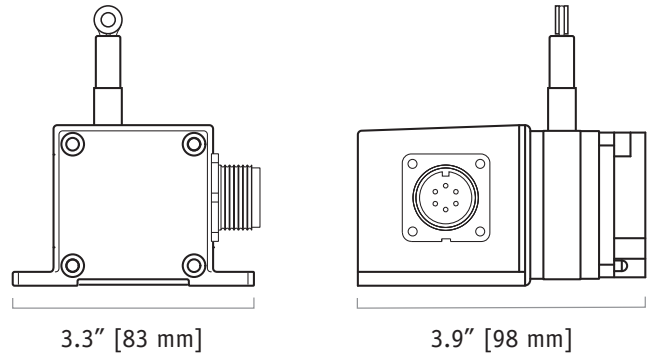
Full Stroke Range Options	0-2 to 0-50 inches
Output Signal Options	voltage divider (potentiometer)
Accuracy	see ordering information
Repeatability	± 0.02% full stroke
Resolution	essentially infinite
Measuring Cable	.019-in. dia. nylon-coated stainless steel
Enclosure	glass-filled polycarbonate and black 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	see ordering information
Power Rating, Watt	see ordering information
Recommended Maximum Input Voltage	see ordering information
Output Signal Change Over Full Stroke Range	94% ±4% of input voltage

ENVIRONMENTAL

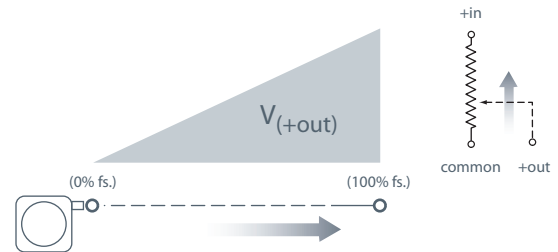
Enclosure	NEMA 4, IP 65
Operating Temperature	0° to 200°F (-17° to 90°C)
Vibration	up to 10 g to 2000 Hz maximum



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.

Output Signal:



-- bridge circuit option available, see ordering information

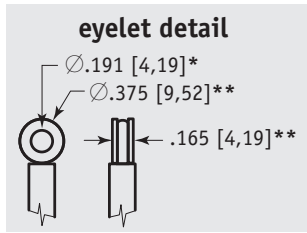


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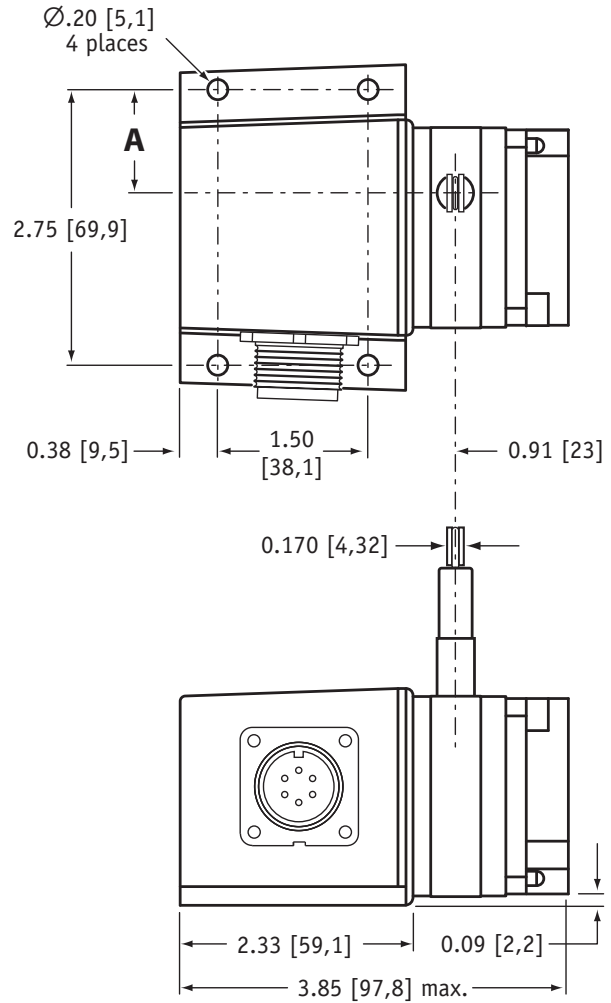
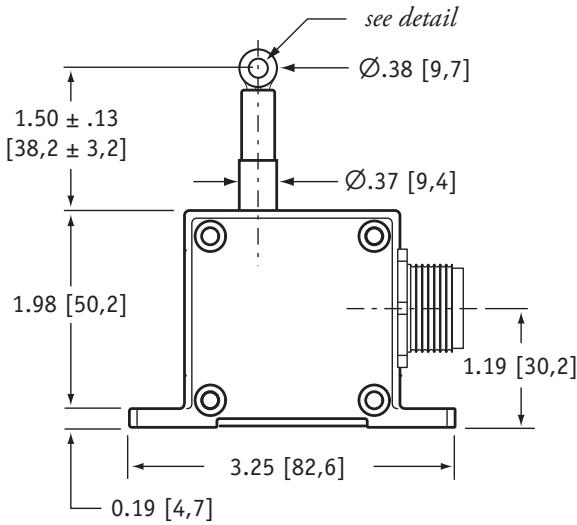


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Outline Drawing:



Range	A
2, 10	1.04 [26,4]
5, 25, 50	0.58 [14,7]
15, 30	0.82 [20,8]
20, 40	0.74 [18,8]
<i>inches [mm]</i>	



DIMENSIONS ARE IN INCHES [MM]
tolerances are 0.03 IN. [0.5 MM] unless otherwise noted.

* tolerance = +.005 - .001 [+.13 -.03]
** tolerance = +.005 - .005 [+.13 -.13]

Ordering Information:

Model Number:



Sample Model Number:

PT1A - 30 - UP - 500 - MC4 - SG

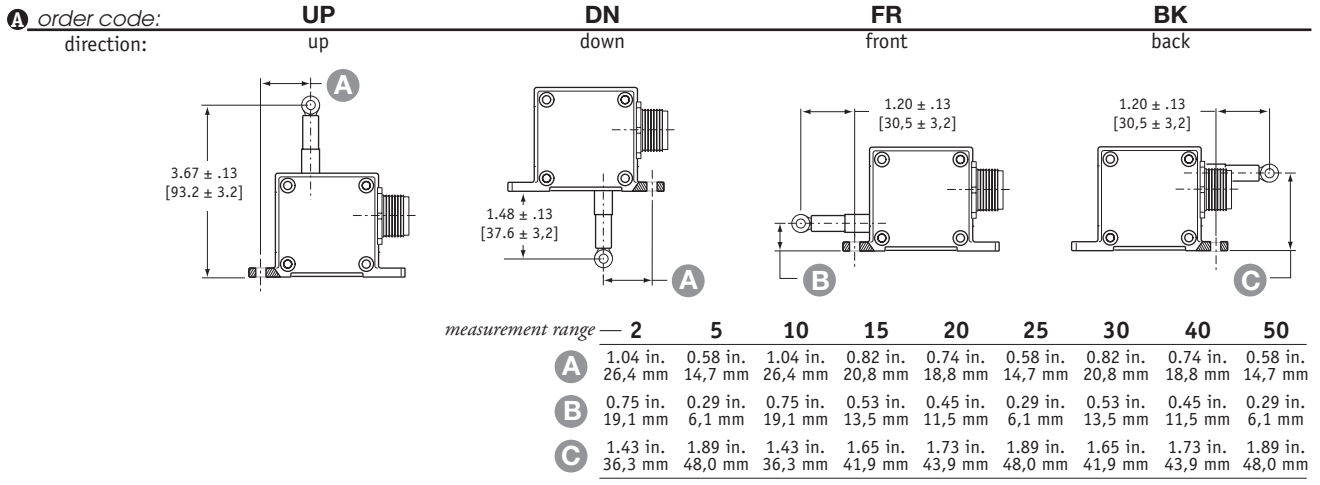
- R** range: 30 inches
- A** measuring cable exit: up
- B** output signal: 500-ohm pot.
- C** electrical connection: 4-pin micro connector
- D** cable guide: spring-loaded guide

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 (20%):	12 oz.	5 oz.	12 oz.	9 oz.	6 oz.	5 oz.	9 oz.	6 oz.	5 oz.
max. cable acceleration:	11 g	3 g	11 g	5 g	4 g	3 g	5 g	4 g	3 g

Ordering Information (cont.):

Cable Exit:



Output Signals:

B order code:

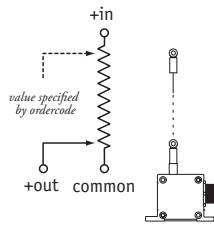
	500	1K	5K	10K	AB
	500 ohm*	1000 ohm*	5000 ohm*	10,000 ohm*	adjustable bridge (0...30 mV/V)

*tolerance = ±10%

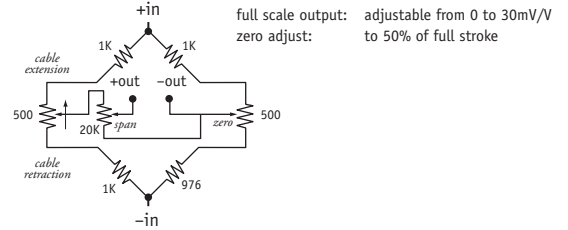
max. input voltage and power rating, options: 500, 1K, 5K, 10K

	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)



Electrical Connection:

C order code:

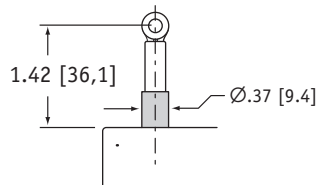
	MC4	M6	C25																																																		
	4-pin micro-connector with 12 ft [3.5 M] cordset	6-pin plastic connector with mating plug	25-ft. instrumentation cable 24 AWG, shielded																																																		
	12 ft. x 5/16-in. dia. [3,5 M x 8 mm dia.] yellow PVC jacket shielded, 22 AWG	.30 - .39 in. [8 - 10 mm] cable dia. 16 AWG max conductor size connector: MS3102E-14S-6P mating plug: MS3106E-14S-6S	25 ft. x 0.2-in. dia. [7,5 M x 5 mm dia.] 24 AWG, shielded																																																		
	<p>4-pin mating plug and cord set:</p> <table border="1"> <thead> <tr> <th>pin</th> <th>color code</th> <th>standard</th> <th>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	standard	bridge	1	RED-BLK TR.	+IN	+IN	2	RED-WHT TR.	COMMON	-IN	3	RED	+OUT	+OUT	4	GREEN	-	-OUT	<p>6-pin mating plug:</p> <table border="1"> <thead> <tr> <th>pin</th> <th>standard</th> <th>bridge</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>+IN</td> <td>+IN</td> </tr> <tr> <td>B</td> <td>COMMON</td> <td>-IN</td> </tr> <tr> <td>C</td> <td>+OUT</td> <td>-OUT</td> </tr> <tr> <td>D</td> <td>-</td> <td>+OUT</td> </tr> </tbody> </table>	pin	standard	bridge	A	+IN	+IN	B	COMMON	-IN	C	+OUT	-OUT	D	-	+OUT	<p>25-ft. cable:</p> <table border="1"> <thead> <tr> <th>color code</th> <th>standard</th> <th>bridge</th> </tr> </thead> <tbody> <tr> <td>RED</td> <td>+IN</td> <td>+IN</td> </tr> <tr> <td>BLACK</td> <td>COMMON</td> <td>-IN</td> </tr> <tr> <td>GREEN</td> <td>+OUT</td> <td>+OUT</td> </tr> <tr> <td>WHITE</td> <td>-</td> <td>-OUT</td> </tr> </tbody> </table>	color code	standard	bridge	RED	+IN	+IN	BLACK	COMMON	-IN	GREEN	+OUT	+OUT	WHITE	-	-OUT
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Cable Guide:

① order code:

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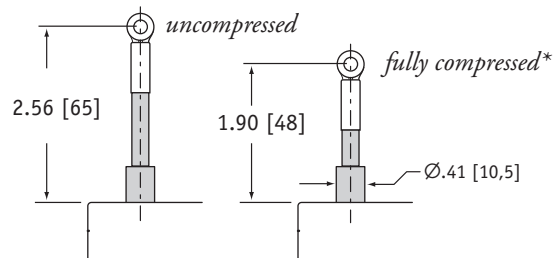
standard cable guide



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).*



version: 7.0 last updated: March 11, 2014